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UNITED STATES NAVAL INSTITUTE PROCEEDINGS

Vol. 53 NOVEMBER, 1927 No. 297

Contents

The Office of Naval Operations.—Eberle	*1153*
Origin of the Continental Navy.—Paullin	*1158*
The Strength of Gibraltar.—Pye	*1160*
A Vanishing Naval Tradition: The Figurehead.—Lathrop	*1166*
Sea Power and the Yorktown Campaign.—Miles	*1169*
Birds of Ebony.—Clark	*1185*
The Nicaraguan Canal.—Kirkpatrick	*1187*
Notes on the Early Development of the Designs in Marine Signal Flags.—Chapin	*1191*
Another Route to the Pacific.—Naval Historical Foundation	*1196*
How to Recognize Propaganda.—Buell	*1201*
Trade.—Knox	*1207*
Discussion	*1211*
Professional Notes	*1217*
Notes on International Affairs	*1235*
Book Reviews	*1239*
Secretary's Notes	*1243*

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Vol. No. 53, No. 11

Contents

1927
Whole No. 297

THE OFFICE OF NAVAL OPERATIONS
By Admiral E. W. Eberle, U. S. Navy 1153

ORIGIN OF THE CONTINENTAL NAVY
By Charles O. Paullin 1158

THE STRENGTH OF GIBRALTAR
By Captain W. S. Pye, U. S. Navy 1160

A VANISHING NAVAL TRADITION—THE FIGUREHEAD
By Constance Lathrop 1166

SEA POWER AND THE YORKTOWN CAMPAIGN
By Commander A. H. Miles, U. S. Navy 1169

BIRDS OF EBONY
By Rear Admiral George R. Clark, U.S.N. (Retired) 1185

THE NICARAGUAN CANAL
By Major R. Z. Kirkpatrick, Engineer Reserve, U. S. Army 1187

NOTES ON THE EARLY DEVELOPMENT OF THE DESIGNS IN MARINE SIGNAL FLAGS
By Howard M. Chapin 1191

ANOTHER ROUTE TO THE PACIFIC
Naval Historical Foundation 1196

HOW TO RECOGNIZE PROPAGANDA
By K. L. Buell 1201

TRADE
By Captain Dudley W. Knox, U. S. Navy (Retired) 1207

DISCUSSION 1211

PROFESSIONAL NOTES 1217

NOTES ON INTERNATIONAL AFFAIRS 1235

BOOK REVIEWS 1239

SECRETARY'S NOTES 1243

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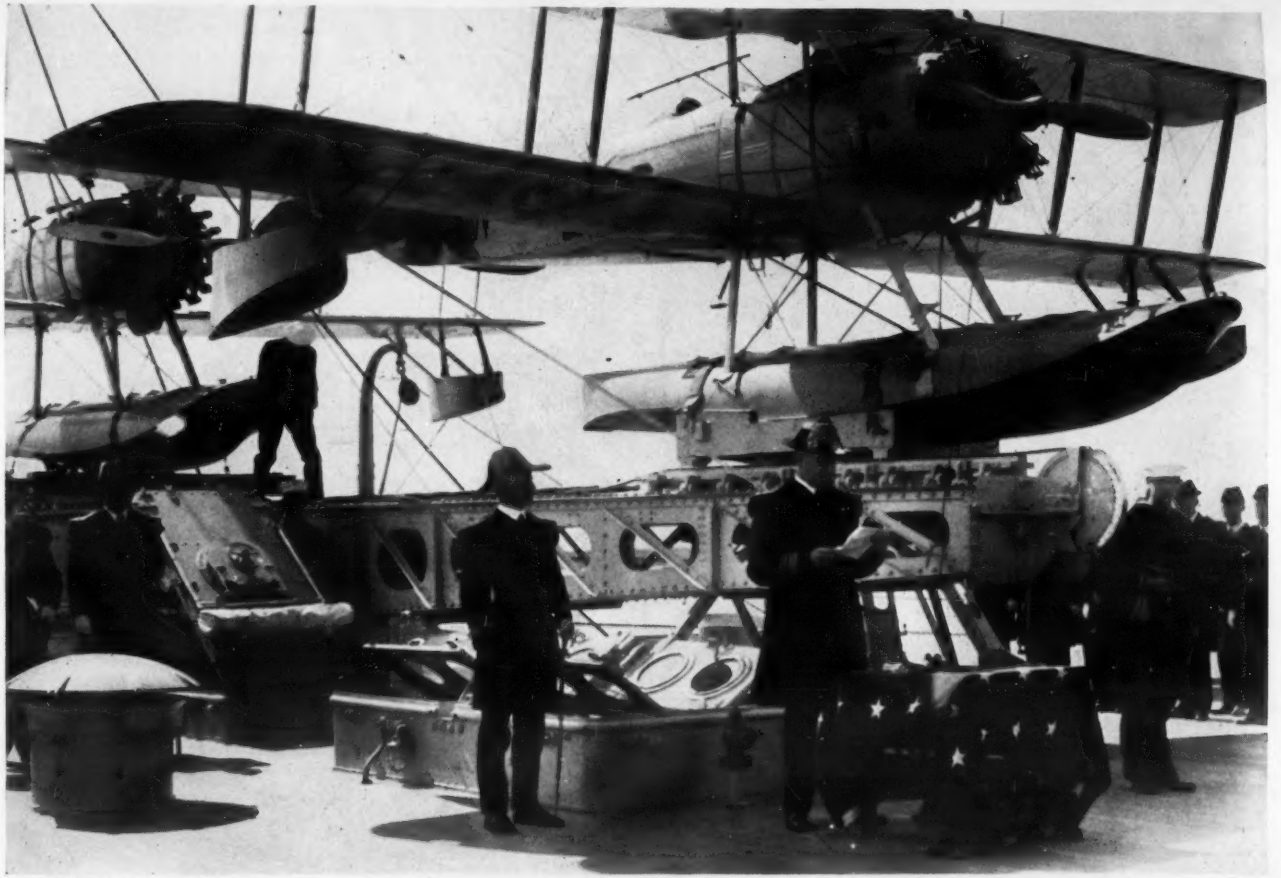


International Newsreel

COMMAND OF BATTLE FLEET CHANGES

Los Angeles Harbor, Calif.—Admiral Louis R. de Steiguer relieves Admiral Richard H. Jackson as commander-in-chief with the U.S.S. *California* as flagship. Every high ranking naval officer stationed on the Pacific coast was present at the ceremonies aboard the *California*. Photo shows retiring Admiral Jackson (left) with the new commander-in-chief standing nearby, reading his orders to fleet officers.

Underwood and Underwood, Washington

ADMIRAL CHARLES F. HUGHES, U. S. NAVY
The retiring Commander-in-Chief of the United States Fleet and the new Chief of Naval Operations.

Official Photograph, Navy Department

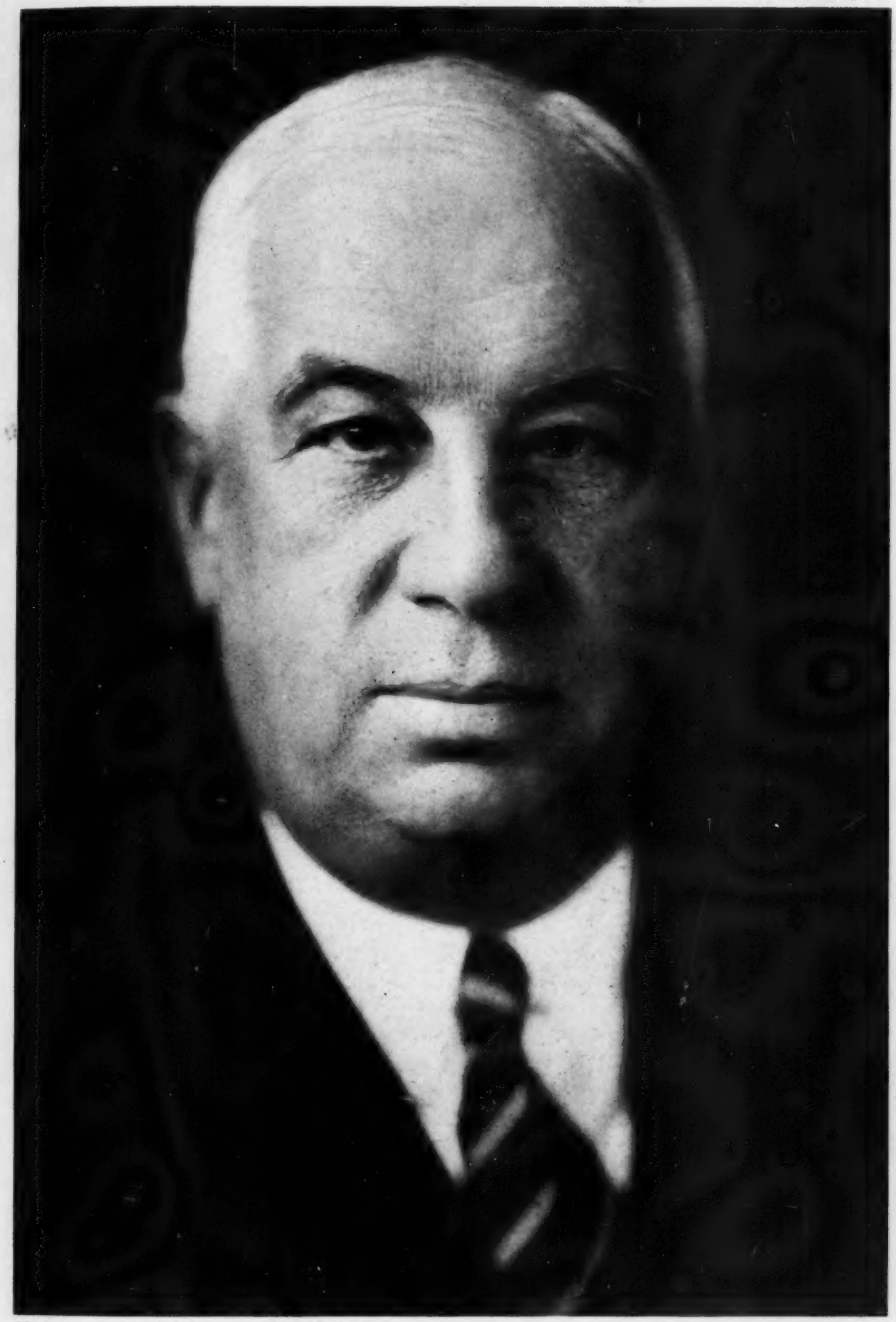
ADMIRAL HENRY A. WILEY, U. S. NAVY

The new Commander-in-Chief United States Fleet, who relieves Admiral Charles F. Hughes, U. S. Navy, this month.

Underwood and Underwood, Washington

EDWARD E. SPAFFORD OF NEW YORK

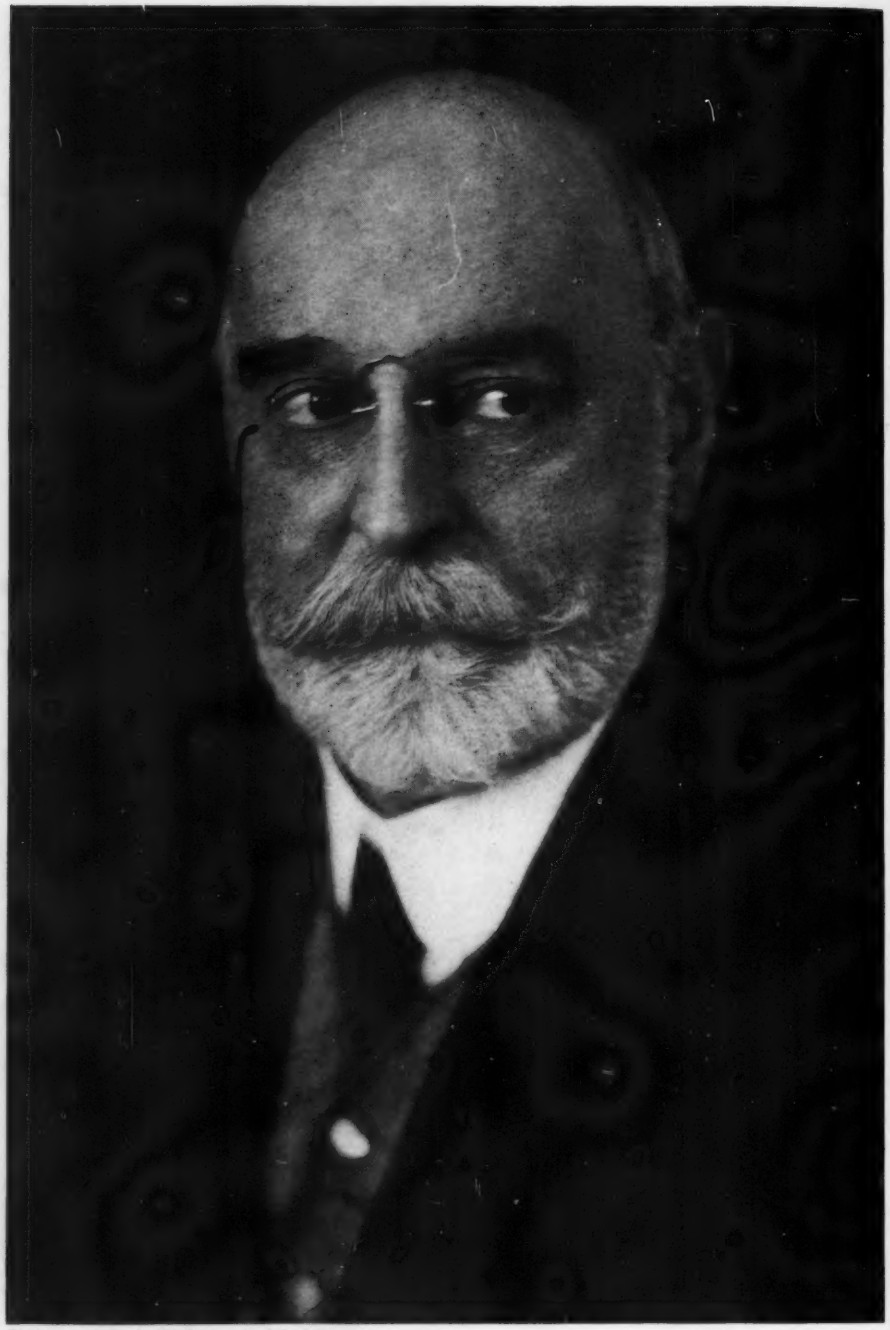
The new commander of the American Legion. He graduated from the U. S. Naval Academy in 1901 and resigned as a Lieutenant Commander in 1914. In 1917 he volunteered his services to the government and was appointed a Lieutenant Commander in the Fleet Naval Reserve.



Underwood and Underwood, Washington

REAR ADMIRAL W. H. G. BULLARD, U. S. NAVY, (Retired)

President Federal Radio Commission. He was the only speaker of the evening at the Fourth Radio Industries' Banquet in New York City. It is estimated that nearly 40,000,000 radio listeners heard his voice.



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ADMIRAL E. W. EBERLE, U. S. NAVY

Admiral Eberle will be relieved as Chief of Naval Operations on November 14, 1927, and will become Chairman of the Navy General Board.

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The Office *of* Naval Operations

By ADMIRAL E. W. EBERLE, *U. S. Navy*
Chief of Naval Operations

THE functions now performed by the Office of the Chief of Naval Operations have been required ever since the establishment of the Navy. Formerly, these functions were performed by the Bureau of Navigation, which was the Navy Department's agency for the preparation, training, and assignment of personnel, and operations of ships and shore stations both in peace and in war.

ORGANIZATION IN 1909

With the expansion of the Navy, and the introduction of new and complex types of ships and other material, it became apparent that a serious defect in the organization was the lack of an agency to devote all of its time to the military operations and training for war of the various units making up the fleet as a whole. To meet this need there was established in 1909 the "Aid" system, by which the work of the Department was grouped under four general divisions: Operations, Personnel, Material, and Inspection, the Aid for Operations being charged with matters connected with the operations and training of the fleet.

PRESENT ORGANIZATION

The so-called Aid system, however, lacked legal sanction. Effort to remedy this situation resulted in the Act of March 3, 1915, which provided for the appointment of a Chief of Naval Operations specifically charged, under the direction of the Secretary of the Navy, with the operations of the fleet and with the preparation and readiness of plans for its use in war.

In order to coördinate the efforts of the War and Navy departments in peace time and in preparation for any emergencies that might arise, a joint board, composed of Army and Navy members, meets at regular intervals and recommends to the secretaries of War and Navy the steps necessary to be taken by each service in order to economically and efficiently provide for the national security.

THE JOINT BOARD

The Joint Board is constituted as follows:

For the Army: The Chief of Staff, Deputy Chief of Staff, and The Assistant Chief of Staff (War Plans Division, General Staff).

For the Navy: The Chief of Naval Operations, The Assistant Chief of Naval Operations and The Director War Plans Division (Naval Operations).

Policies submitted by this Board, when approved by the Secretary of War and the Secretary of the Navy, serve as a basis for the development of more detailed plans to give force and effect to the approved policies.

THE WAR PLANS DIVISION

The war plans and development projects evolved in the office of the Chief of Naval Operations, when approved by the Secretary of the Navy, serve as a guide to coördinate the work of all the bureaus and offices of the Navy Department. In peace time this work

applies to the strength and composition of the various fleets and squadrons; their disposition so as to permit of a timely concentration in case of emergency; their present condition with particular reference to deficiencies in both material and personnel; and specific recommendation of items of construction, development, training, and supply, arranged in order of priority, for inclusion in the budget to be submitted to the President for review and transmission to the Congress.

Detailed naval plans for various campaigns are kept up to date to meet the constantly changing conditions in the world. This involves constant and unremitting study and detailed information not only of the resources of our own country, but of foreign countries and also of all the probable theaters of operations both in peace and war.

OFFICE OF NAVAL INTELLIGENCE

The office of Naval Intelligence, under the Chief of Naval Operations, collects information for the Department and publishes and disseminates such information to the Navy and to Government officials requiring it. This office coöperates with the other executive departments of the Government in discovering and bringing to justice persons in activities against the United States. It directs all naval attachés abroad, and is the official channel of communications for all foreign naval attachés in the United States. This office keeps in close touch with all naval activities both in and out of the Navy Department.

It is contemplated that upon the outbreak of war a National Director of Censorship will be appointed with various assignments. The Director of Naval Intelligence will be Chief Naval Censor and will prepare, as far as is practicable, for the taking over of all United States cable and radio censorship. It is contemplated that United States mail, telephone, and telegraph censorship will be under the Army.

The Navy Information Office, under the Director of Naval Intelligence, collects and disseminates to the public information regarding the naval service.

THE NAVAL WAR COLLEGE

The Naval War College at Newport is maintained under the Chief of Naval Operations to afford officers an uninterrupted opportunity to study the principles of warfare as enunciated by the great masters of the art; to develop practical application of these principles of war on the sea under modern conditions; and, particularly, to train their mind to a high degree of precision and rapidity in the correct application of these principles.

Certain officers are assigned to the College for a course of instruction for eleven months. There are two classes under instruction at the College—a Senior class of about fifty student officers and a Junior class of about twenty-five student officers. Classes consist of officers of the line of the Navy of the rank of lieutenant, lieutenant commander, commander, captain, and rear admiral and of officers from the staff corps of the Navy, Marine Corps, Coast Guard, and the Army. Officers of the rank of lieutenant and lieutenant commander, are, as a rule, assigned to the junior course, although officers of these ranks of the staff corps and corresponding ranks in the Army may be assigned to the senior course.

To carry out the purposes outlined above, officers are given a course of instruction and study in strategy, tactics, and principles of command, including the practical application of these subjects to the chart maneuvers and tactical exercises on the game board. To clarify and systematize their ideas, theses are submitted by each officer on selected professional subjects; and each officer assists in the preparation and presentation of committee reports on designated naval and military campaigns. As a part of the course, lectures are given on international law, policy, economics, and other important subjects, all being designed, in continuation of the course of study, to prepare officers to perform efficiently the duties of the higher command in time of war.

For the benefit of officers who are not assigned to the regular course of instruction, the College carries out a correspondence course which gives a brief course of study and training to officers volunteering for this work.

THE MATERIAL DIVISION

The Material Division of the Office of the Chief of Naval Operations has cognizance of the material condition of the vessels of the Navy both in and out of commission.

Under the Chief of Naval Operations and from the viewpoint of the requirements

of the Navy as a whole, it coördinates the effort of the several material bureaus both in overhaul and repair work and in new construction so that economical results can be attained to conform to the operative and military requirements of the Navy. It makes ships available for repair work and assigns priorities in order to meet the approved plans and operating orders for vessels. It so regulates the flow of work into the several navy yards that the work load at the yard will be commensurate with the funds available and the capabilities of the yard. It coördinates the efforts of the several interests involved in connection with the shore establishment in regard to the location, protection, and capacity of navy yards, naval stations, dry docks, fuel reservation, radio stations, and reserves of ordnance, ammunition, fuel, and other supplies.

SHIP MOVEMENT DIVISION

The Ship Movements Division of Operations prepares the operating force plan and organization of naval forces in accordance with the policy outlined by War Plans Division and approved by the Chief of Naval Operations. This includes the assignment of ships and other units to fleets, squadrons, and divisions.

This division prepares and issues the operating schedules for all ships of the Navy and maintains complete and accurate records for analyses of the movements and operations both past and prospective of all ships in commission. The above information is disseminated to the bureaus and offices of the Navy Department; to the commanders of fleets, forces, and stations afloat; and to the commandants of districts ashore.

THE FLEET TRAINING DIVISION

The Fleet Training Division of Operations is charged with the following duties:

(1) The preparation of a balanced program of fleet training based upon approved war plans, and the current degree of readiness for war in each branch of fleet training.

(2) Coöperation with the fleet and the Naval War College, in study, research, and experiment in all branches of fleet training for war.

(3) The preparation of general instructions for the conduct of fleet exercises.

(4) The preparation of the war instructions and other standard instructions, manuals and drill books governing the military activities of the fleet in war and training for war.

(5) The preparation of the Orders for Gunnery Exercises for all classes of naval vessels and aircraft, prescribing the various forms of practices necessary for the development of efficiency in the use of guns, torpedoes, mines, depth charges, and bombs.

(6) The preparation and issue to the service of regulations for small arms practice, the collection and compilation of data concerning such practices, and the dissemination of the same to the service. General supervision over all rifle and pistol ranges under control of the Navy Department.

(7) The preparation and issue to the service of the Rules for Engineering Performances for all classes of naval vessels with a view to the development of efficiency in engineering; analysis of engineering performance data; establishing standards for economical operation of motive power under all conditions of service; auditing of engineering performance reports; compilation and publication of reports.

(8) Control of the assignment of awards for excellence in gunnery, engineering and small arms firing, including trophies, prizes, badges, and insignia.

(9) The collection, analysis, and review of all data in regard to fleet training and compilation of the same into suitable reports for the information and guidance of the service.

THE NAVAL DISTRICTS DIVISION

The Naval Districts Division of Operations has under its cognizance:

(1) Military administration of the Naval Districts as a whole.

(2) Organization of Naval Districts for peace and war.

(3) Preparation for defense of the districts in time of war.

(4) Patrol of coastal waters and of coast line in war.

(5) Installation and control of submarine nets at harbor entrances.

(6) Laying of Navy contact mines for defense of harbor entrances.

(7) Operation of Lighthouse Service and Coast Guard Stations when turned over to Navy in time of war.

(8) District anti-submarine operations.

(9) Sale of all discarded naval vessels.

(10) Collection and filing of data regarding vessels suitable for taking over for district and other naval purposes in war; and as to district repair and supply facilities, docks, storehouses, etc., for use in time of war.

(11) Commandeering, lease, charter, and purchase of vessels for general naval and Naval District use in war.

(12) Transfer and loan of vessels to other governmental departments, municipalities, etc.

THE BOARD OF INSPECTION AND SURVEY

The Board of Inspection and Survey is charged with inspections and trials of newly constructed vessels, including submarines and aircraft. This, in general, consists of (1) preliminary trials to ensure that vessels meet requirements of the contract before preliminary acceptance by the Government and (2) final trials six months after such acceptance to determine defects shown in service and to ensure vessel meeting all contract terms before final acceptance. Usually trials involve the standardization of one vessel of each group in order to determine speed, revolution, horsepower, curves for the group, and an inspection and full speed endurance run for each vessel. Vessels built by the Navy are given the same trials as those undergone by vessels built by private contract in order to ensure that workmanship and performance maintain proper standards, at least equal to workmanship and performance required by contracts for privately built vessels.

In addition to inspection and trials of vessels, the Board conducts material inspections of all vessels once in three years when practicable, or upon their return from a foreign station. It is the policy to conduct such inspections just before overhaul, unless for special reasons, such as poor performance of a vessel in service, poor material condition, or proposed disposal of a vessel, the Department desires earlier information as to existing conditions. In all inspection work the Board maintains close coördination with the Material Division and with the bureaus. The Board appraises all naval vessels to be disposed of by sale.

On many trials of new vessels the Board of Inspection and Survey obtains tactical data of value. This, as well as the tactical data obtained by ships, is under its cognizance for tabulation and analysis.

THE JOINT MERCHANT VESSEL BOARD

The Joint Merchant Vessel Board inspects, through district section boards, all merchant vessels of American registry with the purpose of furnishing War Plans Division and the bureaus with the necessary information to determine whether or not a merchant vessel is suitable for the use of the Navy in time of war, and if suitable what use should be made of her and what alterations would become necessary at time of taking her over. These inspections are at the same time conducted for the Army, information obtained being incorporated in the complete report. The Army is represented by one member at Headquarters, and by one member on each of the district section boards.

THE DIRECTOR OF NAVAL COMMUNICATIONS

The Director of Naval Communications, through the Communication Division, administers the Naval Communication Service, which is the organization under the Chief of Naval Operations charged with the operation of all United States naval communications.

(a) *The Communication Division* has cognizance of Naval Communications by all rapid means, including radio, telegraph, telephone, dyscrasite, cable, visual, underwater and sound signals, and also special communication methods, such as with pigeons, couriers, and the Naval Postal service ashore. Also, it has cognizance of the operation of such naval communication systems as may be authorized by law to carry on commercial business. It also has cognizance of radio intelligence and security involving the operation of a radio compass system and the construction and safeguarding of adequate codes and ciphers for secret correspondence.

(*b*) *The Traffic Section* (Atlantic Communication Officer) is charged with the general handling and routing of all Navy traffic and with the operation of radio stations on the Atlantic and Gulf Coasts; also, with advice regarding communication matters relating to other Government Departments and foreign administrations or managements.

(*c*) *The Code and Signal Section* (Navy Department Radio Intelligence and Security Officer) is charged with the construction of naval codes and ciphers, visual signalling and with cryptographic research and investigation.

(*d*) *The Registered Publication Section* is charged with the distribution of and accounting for all naval secret and confidential publications bearing registered numbers.

(*e*) *The Commercial Section* is charged with the handling of funds received or disbursed on account of commercial business handled by the Naval Communication Service and accounting for these funds so handled. It is also charged with advice in regard to legislation relating to communication matters. In carrying on communication business, the Communication Division shall deal directly with private and commercial concerns regarding matters of common interest.

(*f*) *The Landline Section* is charged with the general administration, so far as the Navy is concerned, of all landlines and cables used by the Naval Communication Service.

Origin *of the* Continental Navy

By CHARLES O. PAULLIN

WHEN the Continental Congress met at Philadelphia on May 10, 1775, the battles of Lexington and Concord had been fought and a British Army was besieged in Boston by the militia of the New England states. After much debate Congress decided to raise an army, and on June 16 it created a military establishment consisting of a commander-in-chief, two major generals, eight brigadier generals, one adjutant general, and numerous subordinate officers (all specified by title). On June 30 it adopted army rules and regulations. In this legislation of June, 1775, the Continental Army originated.

In the summer of 1775 the need for a Continental Navy was less urgent than that of an army, and the establishment of a navy was not discussed in Congress. Outside of that body, however, suggestions for a naval force were made as early as July. The first official step was taken on August 26, when Rhode Island instructed her two delegates to the Continental Congress "to use their whole influence at the ensuing Congress for building at the Continental expense a fleet of sufficient force for the protection of these Colonies and for employing them in such manner and places as will most effectually annoy our enemies and contribute to the common defense of these colonies."

On October 3 one of the Rhode Island delegates laid before Congress these instructions, and consideration of them went over until October 6. On October 5 sundry letters from London, conveying the information that two transports laden with stores and ammunition for the British Army had sailed for America, were laid before Congress, and that body on the same day appointed a committee to prepare a plan for intercepting the two vessels. Thus the "Naval Committee" came into existence. When enlarged to its full size it consisted of seven members, with John Adams the leading member.

During October-December, 1775, the subject of naval affairs was frequently before Congress. Both the Rhode Island instructions and the reports of the Naval Committee were thoroughly discussed. The instructions provided for the building of a fleet; the reports of the committee were concerned with the purchase or hiring of ships, the creation of a naval establishment, and the enactment of necessary naval legislation. For a time there was much opposition among the members of Congress to a Continental Navy; and the recommendations of the committee, since they appeared to involve little expense, were the first to receive the sanction of Congress. In October four vessels were authorized, and later this number was increased to eight. Provision for a naval personnel was made and much fundamental legislation was adopted. Officers were appointed, seamen were engaged, and the ships were fitted out for sea. About the middle of December the Rhode Island instructions were favorably acted upon and the decision reached to build thirteen frigates. A marine committee was chosen to take charge of their construction.

The Continental Navy originated in these several measures of October-December, 1775. The most fundamental of them was that of November 28 which provided for a naval establishment with a full line of officers and which fixed their pay and put in force for their control and discipline a complete set of naval rules and regulations. By this measure Congress committed itself to the creation and maintenance of a navy. If some one day must be chosen as the birthday of the Continental Navy, much is to be said for November 28. John Adams, however, who had more to do with this fundamental legislation than any other member of Congress said that the legisla-

tion of November 25, authorizing captures, providing for privateering and the trial of prize cases, and fixing the shares of the proceeds arising from the sale of prizes, was the "true origin and foundation of the American Navy." As the material of the Navy had its beginning on October 13 when Congress authorized the fitting out of the first vessels, this date must be regarded as an initial one of much importance.

The little fleet of the Naval Committee went to sea early in January, 1776, and, after capturing New Providence in the Bahama Islands, returned to New England, having made its first captures early in April. These were not the first ships to go to sea nor the first prizes to be captured. The palm of priority in respect to several naval achievements does not belong to the Continental Navy.

On May 5, 1775, the people of New Bedford and Dartmouth, Massachusetts, fitted out a vessel and cut out from a harbor in Martha's Vineyard a prize which had been taken by the British sloop of war *Falcon*—the first capture made by a colonial vessel. On June 12 the people of Machias, Maine, seized the *Margaretta*, an armed schooner in the service of the crown—the first capture of a public vessel. These two captures were without authorization by government.

On June 15 Commodore Abraham Whipple of the Rhode Island Navy—the first of the state navies—captured a tender of the British frigate *Rose*—the first authorized capture of a vessel of the enemy. Obviously these captures were not made by Continental vessels—that is, vessels in the pay of the Continent.

The first vessels under Continental pay and control were fitted out by Washington in the fall of 1775 with a view to capturing British transports carrying supplies and troops for the British Army at Boston, which was besieged by the Army under Washington. They were commanded by army officers and manned by soldiers, both of whom were paid according to the army scale of pay and were subject to the army rules and regulations. Washington's Boston fleet consisted altogether of seven small vessels. When in the spring of 1776 he moved his headquarters to New York he assembled another small fleet, and later there was still another army fleet which defended Lake Champlain under the command of General Benedict Arnold.

The first vessel in the Boston fleet was the *Hannah* commanded by Nicholas Broughton, a captain in the Army. On September 6, 1775, the *Hannah* took a prize—the first capture made by a Continental vessel. Irregular in origin, poorly organized, and without a proper naval code, the little fleet gave Washington much trouble and vexation. In November, 1775, he wrote. "Our rascally privateersmen go on at the old rate, mutinying if they can not do as they please." Notwithstanding their shortcomings, Washington's vessels had considerable success in capturing transports and other lightly-armed craft of the enemy.

At the time of the Revolution these vessels were not considered a part of the Continental Navy, nor are they properly now so considered. Both officers and crew were on the military establishment. Until November 28, 1775, there was no naval establishment, Washington having no power to create one. He had no authority to fix the rates of pay for naval officers, nor could he draw up and enforce naval rules and regulations.

It may be urged that the writer of this article is using the word "navy" technically. That is true, for the Navy is a technical organization and should not be defined loosely or in general terms. To do so would obscure and confuse historical truth. Thus, it might be defined so as to include the privateersmen who sailed under Continental commissions. This would result in obscuring the very real difference that exists between a privateering vessel and a naval vessel.

Washington's Boston fleet and the Continental Navy had different origins. The Navy did not develop from the fleet. The United States Navy was not born at the siege of Boston (PROCEEDINGS No. 286, p. 2417). Some of the successes of Washington's fleet may have neutralized opposition in Congress to the creation of a Continental Navy. Certainly some of the problems that arose in respect to the disposition of the prizes of the fleet had a connection with the naval legislation on that subject. It would be difficult to trace any additional influence of the fleet upon the origin of the Continental Navy.

The Strength *of* Gibraltar

Has Aviation Affected the Strength of Gibraltar, Hawaii, and the Canal Zone?

By CAPTAIN W. S. PYE, *U. S. Navy*

THE Strength of Gibraltar! Most of us through the advertising medium of a prominent life insurance company and a hazy recollection of our school history's stories of several heroic defenses of the rock, have more or less unconsciously accepted the strength of Gibraltar as a standard with which to compare the strength of any strategic position. It is a severe shock, therefore, when we read in an issue of a leading aviation magazine, that the development of aviation has seriously reduced the strength of this famous British outpost.

To Americans such a statement immediately raises the question: What of Panama and Hawaii? Has aviation likewise decreased the strength of these bases whose integrity is vital to our security? Truly a statement which implies such a dire possibility is worthy of analysis.

Fortunately, since the flag of the United States was raised over these bases, neither has been subjected to an attack. That they will be attacked in the future is just as certain as that in its broad aspects history repeats itself. As Gibraltar stands sentinel over the trade routes between western Europe and southern Europe and the East, so, too, do Panama and Hawaii guard, respectively, the trade routes between the east and west coasts of the United States, and between our west coast and the Far East. The similarity of strategical position of these three important bases prophesies a stormy future for Panama and Hawaii. It may then be of value to review the "high lights of history" of Gibraltar.

In slightly more than twelve centuries since the Moors invaded Andulas (Spain) and founded a settlement on this famous rock, it has suffered fourteen sieges besides numerous sporadic attacks. In six of these sieges the besiegers were successful; in the other eight, the defenders retained possession. This record considered alone would not seem to justify our idea of its strength, but a more detailed examination shows that in the five sieges since 1467 it has succumbed but once, namely, when captured by the British and Dutch in 1704, during the War of the Spanish Succession.

It is a remarkable fact that this siege was not contemplated in the mission assigned by the home governments to the forces which made the capture. The sea forces under command of Admiral Sir George Rooke, and the land forces embarked in transports accompanying the squadron under the Prince of Hesse Darmstadt, had been unsuccessful in their original mission to arouse the Catalans to rebellion against Spain, and these commanders, feeling it incumbent upon them to achieve something of importance, after a council of war, decided upon their own initiative to attempt the capture of Gibraltar.

At this time Great Britain and Holland were supporting the Austrian claim to succession to the Spanish throne, so upon the surrender, which was received by the Prince of Hesse Darmstadt commanding the land forces, the imperial standard of Archduke Charles of Austria was raised over the fortress. The British admiral, however, realizing the value of Gibraltar to Great Britain, immediately ordered that the imperial standard be hauled down and the royal standard of England be hoisted in its stead. Thus, as a result of a hasty decision of a council of war and the blunt assumption of authority by a far sighted old "sea dog," Gibraltar became a British possession.

Three times in the succeeding seventy-five

years, the Spanish, aided upon one occasion by the French, besieged the fortress without effecting its surrender. It is the history of these sieges, one of which lasted for nearly four years, that has given a meaning to the expression "The Strength of Gibraltar."

In 1779, when Great Britain was hard pressed by France and Spain and faced with the probable loss of her American colonies, British politicians endeavored to cede Gibraltar to Spain as the price of peace. "To save the face" of the British government, Spain proposed to exchange for Gibraltar an equivalent, Porto Rico or Florida being mentioned as possibilities.

The under-handed attempts of the politicians came to naught, but, in the arrangements of the terms of peace, the exchange of Gibraltar for an equivalent was again proposed. This proposal was taken up in Parliament and denounced by Lord North and others. An extract from a speech of Mr. Burke, in Parliament, will indicate how British opinion, during the seventy-five years of ownership, had become indoctrinated with the value of Gibraltar:

> . . . . The fortress of Gibraltar was invaluable because impregnable. No other post which the Spaniards could give us had that recommendation; and as a post of war; a post of power; a post of commerce; and a post which made us valuable to our friends and dreadful to our enemies; that which gave us command in the district of the ocean where it lay; that which was the incontestable evidence of our preëminence and power; that of all places was what we ought with the most religious determination to maintain.

It can be seen from the above quotation that Gibraltar was recognized as a valuable base, and the fact that it still remains in British possession and that great expenditures have been made to insure its integrity, leads us to believe that the general British opinion is the same today.

Now what are the attributes of a base which make it valuable?

Admiral Mahan considers that there are three principal conditions which affect the strategic value of a base. These are position (or perhaps more correctly, situation), resources, and military strength. Each of these conditions should be considered in the light of the probable use to which the base may be put during war and with special reference to whether operations conducted therefrom will be strategically offensive or defensive.

Situation.—Of these conditions, situation is the most important, for, although strength and resources may be augmented by artificial means, situation is unalterable. But even situations may gradually increase or decrease in value due to changes in trade routes, or changes in international political conditions.

Situations from which operations may be projected against a possible enemy or enemy trade routes, or which are essential as stopping places in the transfer of army or navy forces to possible theaters of war, possess offensive value. Those which are suitably located for the support of forces engaged in the protection of trade routes, or in the defense of home territory or outlying possessions, have defensive value. Neither the offensive nor defensive value of a situation is constant but usually such value changes slowly.

During the past hundred years the trade routes of the world have been subjected to marked changes. One cause was the introduction of steam to supplant the wind as the motive power of ships. No longer was westbound trade forced to take advantage of the trade winds of southern latitudes. In the Atlantic this change reduced the value of bases in the West Indies. In the Pacific, whereas the sailing ship routes passed well to the southward of the Hawaiian Islands on the westward route and to the northward on the eastward route, the steamship routes pass close to these islands and this change, together with the necessity for refueling on the long trip across the Pacific, has materially increased the strategic value of their situation.

Another cause of a great change in the trade routes was the construction of the Suez and Panama Canals. The opening of the Suez Canal increased traffic through the Mediterranean and thus decreased the value of Cape Town as a base but greatly increased the defensive value of Gibraltar and Malta.

The opening of the Panama Canal encouraged the revival of American shipping and established on a firm basis our trade routes between the east and west coasts. Although the commerce of the world has been aided by this canal the United States has gained most from a commercial point of view. It is from the naval point of view, however, that we obtained the greatest value from the Canal, for it permits the concen-

tration of our fleet in either ocean without passing around South America and, in war, makes possible the use of the shipping and port facilities of both coasts in support of our fleet.

The increasing value of trade between the United States and the Far East is continually enhancing the value of the Hawaiian Islands as a base.

There is another development which may eventually cause further modifications in the trade routes. This is aëronautics. The world has now entered an era in which aëronautical transportation will make much progress and, insofar as such transportation displaces water transportation, the strategical importance of situations may change. Because of the limited radius of action of airplanes carrying a profitable load, and the consequent necessity for refueling and refitting, the importance of bases so situated as to support international aëronautical transportation may increase.

Strangely enough the seas will exert a decided influence on aërial routes. International law holds that each nation has the right to control all aërial operations over its own territory; thus, during war especially, "free air" lies only over "free seas," outside the jurisdiction of any nation. For this reason international aërial communication with a belligerent will, to a large extent, be confined to routes over the open seas and, consequently, the possession of well situated bases may become of even greater importance in the future than in the past.

Although we may predict the future importance of aircraft in the transportation of freight, we must not lose sight of the fact that its realization is far distant and that for many years to come the strategic value of a situation will be affected by aviation only in so far as it is favorable to the use of aircraft against or in defense of shipping, or to the transfer of army or navy aircraft to possible theaters of war, or as the effectiveness of the defense of the base is affected thereby.

While it is true that from the point of view of commerce alone the value of the situations of Panama and Hawaii is as great as that of Gibraltar, this is not their chief value. The Panama Canal permits us to maintain a portion of our fleet on each coast without undue danger that they may not be concentrated in the event of war. This leads to economy because it is thus possible to distribute the work load of overhaul and repairs on our ships to the navy yards on both coasts. Previous to the construction of the Canal the major portion of our fleet was maintained in the Atlantic with the consequence that the development of the naval facilities of the Pacific Coast was inadequate for the conduct of war in the Pacific. Hawaii, too, is essentially a naval base. It is the key to the defense of our west coast and a necessary stopping point in the transfer of army or navy forces across the Pacific.

The value of the factor of situation for a base, as indicated in the above discussion, is dependent upon the relation of its geographical location to world trade routes and to possible theaters of war, which may gradually alter.

Resources.—A situation without resources is manifestly of no value, and what is more, the resources required will differ widely, depending upon whether the location of the base may make it the scene of major or minor operations.

So far as shipping is concerned, the most essential resource is an adequate anchorage protected from wind and sea, with a suitable channel thereto. For aviation the most important resources are suitable landing fields for airplanes and sheltered water areas for the operation of seaplanes. A base to be used for minor forces engaged in the defense of trade or against enemy trade need not have extensive water areas, but bases from which major operations may be conducted or which may be used as stopping points in the transfer of major army or navy forces, must have large areas to accommodate the great amount of shipping which will be engaged.

None of the bases previously mentioned has, at present, adequate sheltered water areas for a large fleet. At Gibraltar and at Cristobal (Atlantic terminal of the Canal) artificial means in the form of breakwaters have been resorted to to increase the sheltered anchorage. By passing through some of the locks of the Canal into Gatun Lake, sufficient anchorage can be obtained, but such procedure would make the vessels in that anchorage unavailable for immediate operations. Panama Bay at the Pacific end of the Canal is suitable in size but offers little protection, though fortunately, weather conditions are usually favorable. At Pearl

Harbor much dredging will be required to increase the anchorage area and to make the channel suitable for our largest ships.

The conditions with regard to areas available for aviation at these bases are satisfactory except at Gibraltar, where, because of the nature of the terrain, a suitable area for the operation of land planes is hard to find. To the northward of the town, however, is a flat area of sufficient extent to contain a race track and, while it is possible that air conditions there might not be good, it is certain that this area could be used during war. The sheltered water areas are adequate for seaplane operations.

In order to increase the aviation facilities at Gibraltar it has been suggested that tunnels be run through the rock in many directions, and that these be used as hangar space for aircraft. Landing platforms would be installed at the ends of these tunnels with a view to assisting the taking-off and landing of planes. Large excavations in the rock would serve as storehouses for fuel and ammunition and might possibly permit the installation of repair shops within the rock.

Like many proposed aviation projects this appears rather fantastical, yet it is possible that some features of it are practicable. There now exists a tunnel through the rock nearly a mile in length, in which small pursuit planes with wings folded back, can be stored. There are, too, many galleries cut through the rock to connect various gun positions. Considering the protection afforded by the rock itself, it appears possible that bomb-proof hangar space could be obtained as cheaply by cutting into the rock as by any other method.

Within the Panama Canal Zone and in the Hawaiian Islands, both our Army and Navy have aviation bases. The areas required for additional facilities are available. The extent to which the aviation facilities should be extended is dependent upon the value of such bases to us.

Supply Resources.—The supply resources of a base, so far as pertains to natural resources, relate to the ability to furnish food, fuel, and other supplies. Only bases in home territory or adjacent to large land areas can fulfill these requirements without the aid of artificial resources. None of the bases under consideration has adequate natural resources: it is, therefore, necessary to provide artificial resources in the form of storehouses and piers where ships can unload. Considering the quantity of supplies required for the land and air troops of the garrison, the civil population dependent upon the base, and the naval forces which would probably be operating from the base, it is quite possible that the supply resources of Gibraltar are superior to those of any of the other bases under consideration. Panama and Hawaii have few natural resources and their artificial resources are inadequate.

Repair Resources.—Repair resources are by nature artificial. Gibraltar, Balboa (Pacific terminal of the Canal), and Pearl Harbor, each have facilities for drydocking and making repairs to all types of ships. Panama does not lie near to any probable theater of war; its repair facilities, therefore, need not be much more extensive. Pearl Harbor should be developed to the capacity of a major naval base. Its needs are many. Considering the probable size of the naval forces which may be expected to operate from each of these bases it is probable that Gibraltar is the most effectively equipped.

Military Strength.—The third important consideration affecting the strategic value of a base is military strength. It is with regard to this factor that aviation has come into its greatest prominence. The military strength must be such as to prevent the capture of the base; protect its resources; afford security to the naval forces therein against attacks from minor forces; and control the areas off the entrance to the port.

The capture of a base can be effected only by land forces. Gibraltar alone of these bases has a land frontier favorable to enemy operations, but this frontier is contiguous to Spain, a comparatively weak nation. So long as Spain remains neutral or if she becomes an ally of Great Britain, the rock is practically safe from land attack. In case Spain is at war with Great Britain this base will be hard to defend, but this condition has not been affected any more by aviation than by the development of long range artillery. The capture of the Canal Zone or Hawaii can be effected only by large armies transported overseas. Although a superior naval force is the best means of countering such an attack, there can be no doubt but that in defensive operations against a landing force aircraft are very effective, so much so, in fact, that it may be said, perhaps with-

out contradiction, that, relatively, aviation has added more defensive strength in this than in any other type of operations.

On the other hand, it is in the difficulty of protecting from air attack the resources required by naval forces and the defensive garrison, that aviation has imposed the most difficult task upon the defense. Bombs are destructive to industrial facilities and the industrial areas of these bases are small and well defined. While, during daylight, anti-aircraft batteries have a deterrent effect, it can hardly be contended that in its present state of development such defense is adequate to prevent bombing of objectives on shore. The primary defense of these facilities against bombing must be provided by aircraft.

The geographical situation of Panama, Hawaii, and Gibraltar with relation to possible enemy home air bases, is in their favor. None of them, except Gibraltar with regard to Spain, lies within the probable operating radius of bombing planes from enemy permanent air bases. For this reason the aircraft which might be used against them must be operated from ships or temporary bases.

As scouting planes have a much greater radius of action than planes carrying bombs and as the strength of the aviation arm at each base during war will be much more extensive than that which can operate from a temporary base, it is believed that attempts to destroy these base facilities by bombs from aircraft will not be advantageous to the attacking forces in such degree as to warrant the conclusion that the value of a properly defended base can be destroyed by aviation. On the contrary, aviation by virtue of its ability to carry out distant scouting operations from a fixed base, has added materially to the security of a naval force within the base against minor attacks such as those by submarines or destroyers, and because of its effectiveness in this type of operation, has become of the greatest value in the defense against landing operations.

Although aviation affords a means of attacking ships which, by entering a defended base, have taken refuge from a superior force, the units conducting such an attack would be forced to contend with the air defense of the base as well as the air units of the vessels which have sought refuge. As in the past it has seldom been praticable for a naval force to attack an inferior force within a defended base, so, in the future, it will usually be impracticable for aviation units carried by ships to attack enemy vessels defended by their own aviation units augmented by the aviation units of the defended base.

Long range artillery should be provided as a part of the defense of each important base and, if properly located, this artillery and the aviation shore base units should be of sufficient strength to control an area off the entrance to the base of sufficient size to permit the effective deployment of the naval forces debouching from the base in the face of the enemy.

New weapons and Gibraltar's history.—Before summarizing the conclusions which appear to be justified from this discussion it is desired to show that history proves that with regard to Gibraltar, the effectiveness of the defense has been augmented by new developments in weapons at least in equal measure to that of the offense, and that, although in nearly all cases new weapons were first brought into use by the attacking forces, the defenders were never defeated by such means.

On three occasions the attacking forces counted upon new weapons to bring about victory. In 1436, artillery was first used in the attacking forces, but the attack was a complete failure. In 1727, the Spaniards developed a brass cannon which appeared to be much superior to the iron guns of that day. The brass guns drooped, due to the intense heat developed by rapid firing, and Gibraltar remained in British hands. In 1782, the French and Spanish forces combined to capture the rock. A combined land and sea attack was planned. A force of floating batteries "at once incombustible and insubmergible" were to form a major unit of naval strength. The defending forces, being aware of the construction of these battering ships, developed the red hot shot as a reply. They constructed a great number of furnaces and placed them in suitable positions within the seaward batteries. The red hot shot eventually destroyed the "incombustible and insubmergible" ships and Gibraltar was again saved to the British.

It should not be forgotten that in each of these cases the enthusiastic advocates of the respective weapons, like some over-enthusiastic aviators of today, were sure that the strength of Gibraltar was a thing of the past.

There is a strong tendency among aviation enthusiasts to compare the existing strength of fleets and defenses to the strength of forces which exist only in their imagination. We are told by them that our fleet would be wiped off the sea by a fleet properly equipped with aviation, but—where is the fleet which, in their opinion, is properly equipped with aviation? We are told that aviation has shorn Gibraltar of its power, but—where is the nation which, if engaged in war with Great Britain, can spare from more important theaters of war, the air forces which would be required to destroy the facilities of this important base? It must be remembered, too, that though superior air forces may temporarily destroy the facilities they cannot capture and occupy territory or bases.

From the foregoing discussion it is believed that the following are logical conclusions:

1. Aviation has as yet little effect upon the value of a situation for a base, but with the possible increase in aërial transportation or increase in radius of military aircraft, the value of certain bases will be increased.

2. Aviation requires certain natural resources and certain artificial resources and these must be available at all important bases.

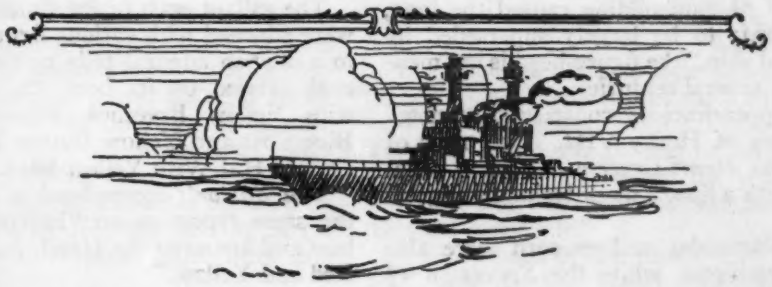
3. Aviation, through aërial bombing, provides a means of attacking the artificial resources and vessels within a base, which cannot be countered by other than aviation forces augmented by anti-aircraft batteries.

4. Against landing operations and surprise attack, aviation has added to the effectiveness of the defense.

5. Neither the present effectiveness of aircraft nor the size of aviation forces available to the great nations of the world, justify the assumption that aviation has shorn Gibraltar, Panama Canal Zone, or Hawaii, of their strategic values; and, so far as can be foreseen, aviation, if properly developed at these bases, will, relative to probable attacking forces, increase their respective powers of defense.

Panama and Hawaii are more important to the United States than Gibraltar has ever been to Great Britain. That in future wars they can be attacked by major forces of an enemy without such forces first defeating our fleet, cannot be conceded, but that they will be attacked by minor forces in the nature of raids, particularly air raids from planes operating from aviation tenders, is just as certain as that their aërial defense is inadequate. When adequate aërial defense, augmented by anti-aircraft batteries, is provided, there will be little danger of enemy air raids.

These bases are essential to the effective conduct of naval operations by the United States fleet. Their integrity can be assured. They are worth the necessary expense.



A Vanishing Naval Tradition—*the* Figurehead

By CONSTANCE LATHROP

THE Vikings designed the figure-heads of their warships to instill fear in the ranks of their enemies and to chase away their guardian spirits.

Prior to the Viking period, the Phœnicians and Egyptians used this now forgotten art for quite another purpose. They ornamented and named their ships to distinguish one individual craft from another. The figure-head expressed the personality of the ship.

The long narrow warships of the Grecians and Romans were variously ornamented. Frequently a favorite god or goddess embellished the bow; or, again, the emblem was the mythical griffin, considered a vigilant guardian.

The clumsy Chinese junks have for centuries plied up and down the Yangtse with strange looking decorations on their bows, usually a huge eye, untiringly watchful for the ever-present devils. The Chinese thought of the junk as a being, subject to human vagaries, and argued: "No got eye, how can see; no can see, how can sabe; no can sabe, how can go?"

After the Norman Conquest, as progress in the art of shipbuilding caused the long, narrow craft to be largely superseded by the "round ship," the figure-head is not mentioned for several centuries.

Its reappearance is conspicuously noted in the navy of Henry VIII. The prow of the famous *Henri-Grace-a-Dieu* was ornamented with a lion, a meek looking but golden lion.

The salamander and unicorn were also favored emblems, while the *Sovereign of the Seas* carried an image of King Edgar on horseback riding over seven less powerful kings.

The seamen of those bygone days regarded the figure-head of their ships with a feeling almost amounting to veneration. They were most superstitious regarding any mishap to it; such an occurrence was an ill omen which those who followed the sea did not care to reckon with.

During an engagement with a French squadron in 1794 the fine laced hat which adorned the figure-head of the H.M.S. *Brunswick*—a representation of the Duke of Brunswick—was shot away. The crew in haste sent some of its members to request the captain to give them his cocked hat that the duke would not be without a covering in battle. The Captain readily acquiesced and his best cocked hat was solemnly nailed on to the figure-head.

The *Grand Francoise*, a noted ship of France, of about 1725, had to ornament her bow and protect all those sailing in her, an image of St. Francis. This quaint figure may still be seen in the church of St. Francis at Havre.

From this time on, the figure-head was in use in all maritime nations until the nineteenth century.

In the United States Navy the figure-head flourished in the days of the wooden sailing vessel.

The gallant craft of the Continental Navy were adorned with various figures. A report to a British admiral tells us that the *Hancock* carried on its bow, "a Man's Head with Yellow Breeches, White Stockings, Blue Coat and Yellow Button Holes, Small Cocked Hat With Yellow Lace."

The *Boston's* figure-head is described in the same report as an "Indian Head with bow and arrow in the Hand, painted White, Red and Yellow."

The *America*, seventy-four guns, which the Congress of the United States presented to France, was ornamented with an elaborate and beautifully carved figure-head. Various historians state that it was designed by John Paul Jones. It represented a goddess of

Liberty crowned with a wreath of laurels, her right arm raised, fore finger pointing to heaven. On her left arm was a shield with a blue field and thirteen silver stars. The legs and feet were covered here and there with wreaths of smoke representing the dangers and difficulties of war.

Especially fine were the decorations of the frigate *United States*. The figure-head, carved by William Rush and considered the masterpiece of that artist carver, was the figure of a majestic woman, with flowing hair.

The genius of America was to guide and guard the beautiful frigate. This was later changed for a billet head and scroll work.

Among the historic relics in the Boston Navy Yard may be seen the figure-head of the famous privateer *General Armstrong*. It is rather a grotesque likeness of the general, but its history is an interesting one.

At Fayal, when the *General Armstrong* was scuttled to save her falling into the hands of the enemy, one of the crew, on leaving the ship, cried out that the "Old General" must be saved. In face of heavy fire some of the sailors cut away the figure-head and conveyed it ashore, amid the cheers of their shipmates.

After the departure of the British, the figure-head was placed over the gates of the American consulate. It was universally known, among the Portugese islanders, as "El Santo Americano," and in passing they invariably crossed themselves. For many years the "Old General" was decorated on every Fourth of July with the American flag and flowers. In later years Mr. Charles Dabney presented the relic to the Boston Navy Yard.

"Old Ironsides" had, in all, five figure-heads during its lengthy and notable service. The original one was a staunch looking Hercules with a club poised over his right shoulder—the work of the Skillings of Boston, noted wood carvers of their day. This was shot away during the attack on Tripoli in 1804. It was shortly after replaced by a representation of Neptune bearing in his hand a trident. A plain billet head and scroll followed next.

When the *Constitution* was being rebuilt at Boston Navy Yard in 1834 a new Hercules was commenced for its bow. Citizens of Boston so strongly urged Commodore Elliot, in command of the yard, to have a likeness of General Jackson placed on the ship that he ordered the carver, L. S. Beecher, to convert the Hercules into a figure of the President, holding in his hand a scroll bearing the motto, "The Union, it must be preserved."

Public sentiment, as is its wont, changed, and Jackson ceased to be popular, in Boston at least. Among those who opposed him was a ship owner named Lincoln. On the evening of July 3, 1834, Mr. Lincoln jestingly said, in the hearing of Samuel Dewey, one of the firm's captains, "I would give one hundred dollars to see that figure-head cut off." During the heavy storm that blew up that night, Dewey rowed out to "Old Ironsides" and sawed off the head of the then much discussed figure-head. On the following morning Dewey called on Mr. Lincoln to collect his one hundred dollars. He later delivered the head to the Secretary of the Navy, Mahlon Dickerson.

"Old Ironsides" was ordered to the New York Yard for completion. Here another head was placed on the trunk. For forty years the quaint figure-head of Jackson remained on the bow of this ship. When it was replaced by a plain scroll design the Jackson figure-head was sent to the Naval Academy.

The English frigate *Macedonian*, captured by Captain Stephen Decatur in 1812, had for a figure-head, a bust of Minerva six feet in height. It was of French artisanship, finely carved. This figure-head is also at the Naval Academy, and now suitably mounted in the grounds and by it the midshipmen march daily in going to and from recitations.

The carved billet head of the *Chesapeake* now ornaments the gates of the ancestral estates of Admiral Sir Philip Broke, in England.

The *Niagara*, of Lake Erie fame, carried on her prow a finely carved eagle which was mounted and placed in the Boston Navy Yard. There it was allowed to fall into decay, and sometime between the years 1921 and 1924 this huge emblem was burned on the yard scrap pile.

A figure-head of Tecumseh, the "God of 2.5," now at the Naval Academy, well known to every graduate or midshipman, is one that for years guided the fortunes of the old *Delaware*, launched in 1820. Upon him, according to the traditions of the academy, depends the monthly average. The midshipmen to this day throw pennies

and other tokens of esteem at his feet to gain his favor not only for scholastic assistance, but for annual athletic contests with West Point.

The Delaware Indian chief, with scalp lock and eagle feathers, is mounted on a pedestal eight feet high, facing Bancroft Hall. Above his right shoulder projects a quiver filled with arrows. In his broad belt is secured a scalping knife, tomahawk and pipe. It is a boast that this brave never sailed except under a broad pennant.

The *Ohio*, of the same period as the *Delaware*, had for sixty years a finely carved figure of Hercules on her bow.

Under the administration of James Monroe, a bust of Washington ornamented the seventy-four gun vessel of that name. That of Franklin was upon the U.S.S. *Franklin*. A replica of the statue of Columbus in the Cathedral of Havana was carved upon the ship-of-the-line *Columbus*.

The image of Sir Walter Raleigh adorned the *North Carolina*.

The gallant Commodore Stewart was depicted on the bow of the *Cyane* built in 1837. A bust of DeWitt Clinton was placed on the seventy-four gun ship *New York*. The frigate *Potomac* was decorated with a carving of Captain John Smith.

The *St. Louis*, launched in 1828, bore the effigy of St. Louis as a figure-head.

During John Adams' administration, the President's bust was placed upon the corvette named for him. It was also the emblem on the bow of the *President*, captured by the British in the War of 1812. For many years this vessel was kept in commission, and used as a receiving, or training ship, by the British.

The *Kearsage* and *Alabama*, whose former namesakes fought with each other in 1864, had similar decorations. They symbolized the North and South clasping hands.

At the Portsmouth Navy Yard may still be seen the billet head of the frigate *Wyoming*.

The State of Massachusetts presented to the battleship of that name a handsome bronze figure of a Winged Victory.

The *Castine* was decorated with the shield of the United States.

The figure-head of the *Trenton*, a relic of the Samoan disaster, is now in Dahlgren Hall, Naval Academy. It is the representation of a huge eagle poised for flight. Another vessel favoring the eagle as a figure-head was the U.S.S. *Rainbow*.

Recently the commandant of the Philadelphia Navy Yard discovered the figure-head of the steam sloop *New York*. It is composed of wood and bronze, and represents a spread eagle perched on a shield. Standing on the base to the left of the shield is a figure of Justice blindfolded. On the right is a personification of Liberty holding in her hand a pole topped with a liberty cap.

The *Dorothea*, a dispatch boat during the Spanish-American War, was ornamented with the figure of a woman with flowing hair, her hand raised to the forehead in an attitude of watching.

In 1909, by order of the Secretary of the Navy, figure-heads were ordered removed from the fighting ships of the United States Navy, and their future use discontinued. This time-honored practice of expressing the individuality of a ship was abolished because it was of no practical use. Other reasons considered were the cost and weight of the figure-heads.

One vessel was exempted in this order, the *Olympia*, Dewey's flagship at Manila Bay. St. Gaudens designed the figure-head of this celebrated vessel. It was considered the most beautiful of modern figure-heads. Made of bronze it represents a Winged Victory, draped in flowing robes, holding above her head an eagle about to take flight. The trailing ends of the robe had a seal of the United States as a feature of a huge scroll embellishment. The cost of this figure-head was $12,200.

When figure-heads were removed from certain ships, it was directed that they be loaned to the state or city for which the ships had been named.

Some years ago the figure-head was replaced on a few ships of our Navy between the guns in the fore-turret by a bronze figure symbolic of the ship's name; but this concession to tradition was not developed, and soon sank into oblivion.

While tradition must yield to efficiency in banishing the inspiring and historic figure-head, it is hoped that an effort will be made to collect and preserve these silent witnesses of the many notable achievements of the United States Navy.

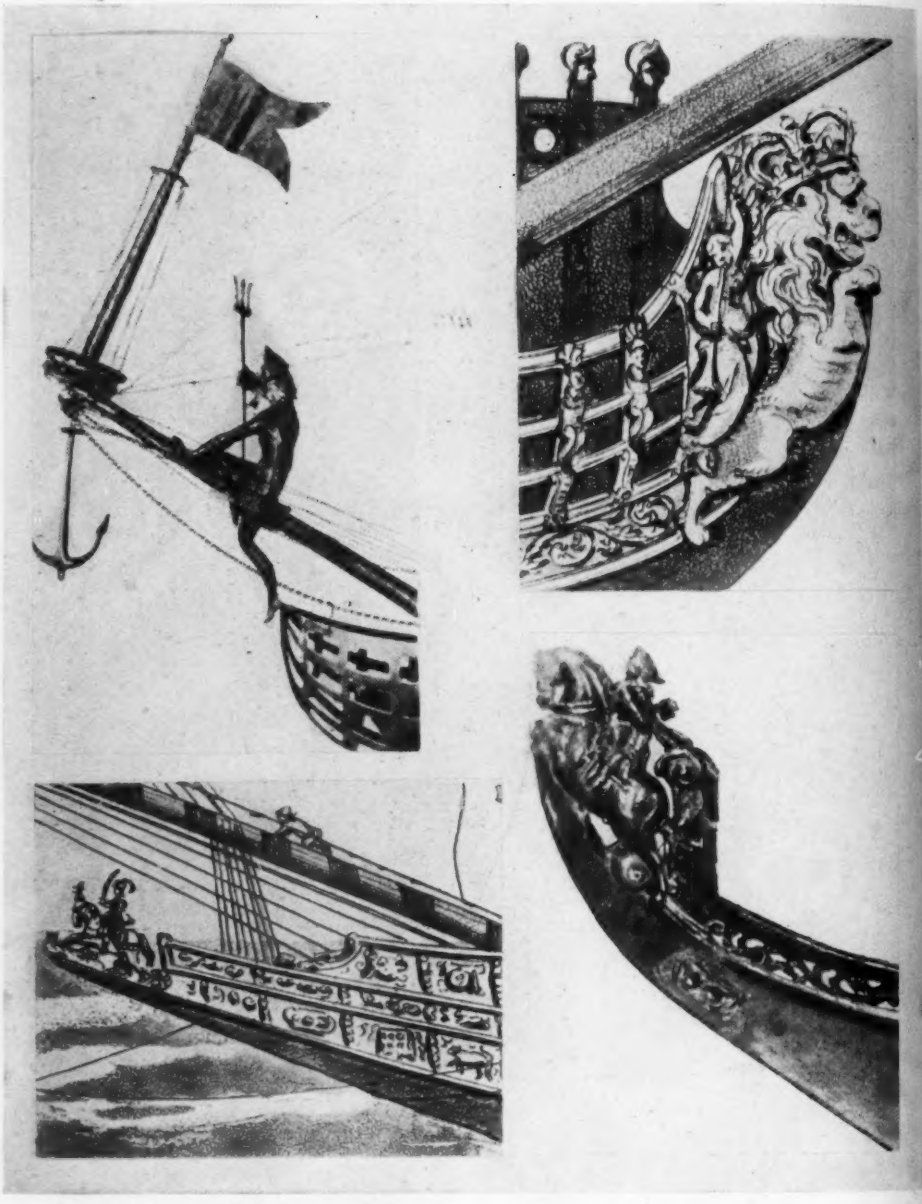
PHOENICIAN TRIREME
700 B.C.

GRECIAN HEPTEREME

ROMAN QUINQUEREME
About 241 B.C.

CHINESE JUNK

VIKING CRAFT



SOVEREIGN OF THE SEAS

H.M.S. "ALBEMARLE"
1680

BRITISH LION

DUTCH CARAVEL
17th Century

SLOOP NEW YORK
1869

NIAGARA
1812

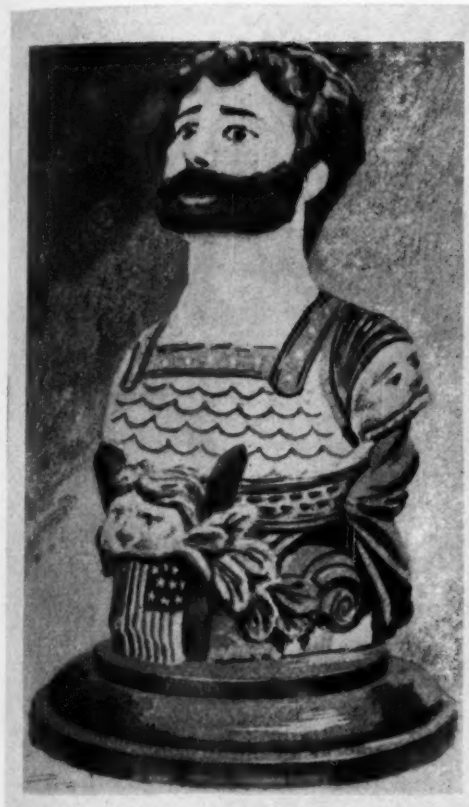
DELAWARE
1820

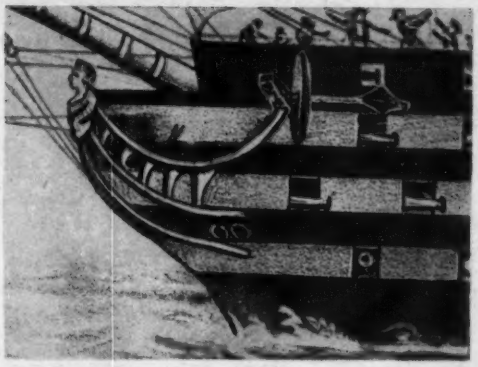
TRENTON
1882

FIGUREHEADS OF HISTORIC U. S. BATTLESHIP

The historic U. S. battleship Constitution and some of its figureheads. In the upper right-hand corner appears the Jackson figurehead now at the Naval Academy. This is supposed to have been on the ship, but it is not certain that it is the original. In the center is the scroll supposed to have been on the Constitution during part of the war of 1812, and next to this is another Jackson figurehead said to have adorned the ship. Below is the Constitution as it appears today.

See Secretary's Notes, pages 1244 and 1250.





General Armstrong
1812

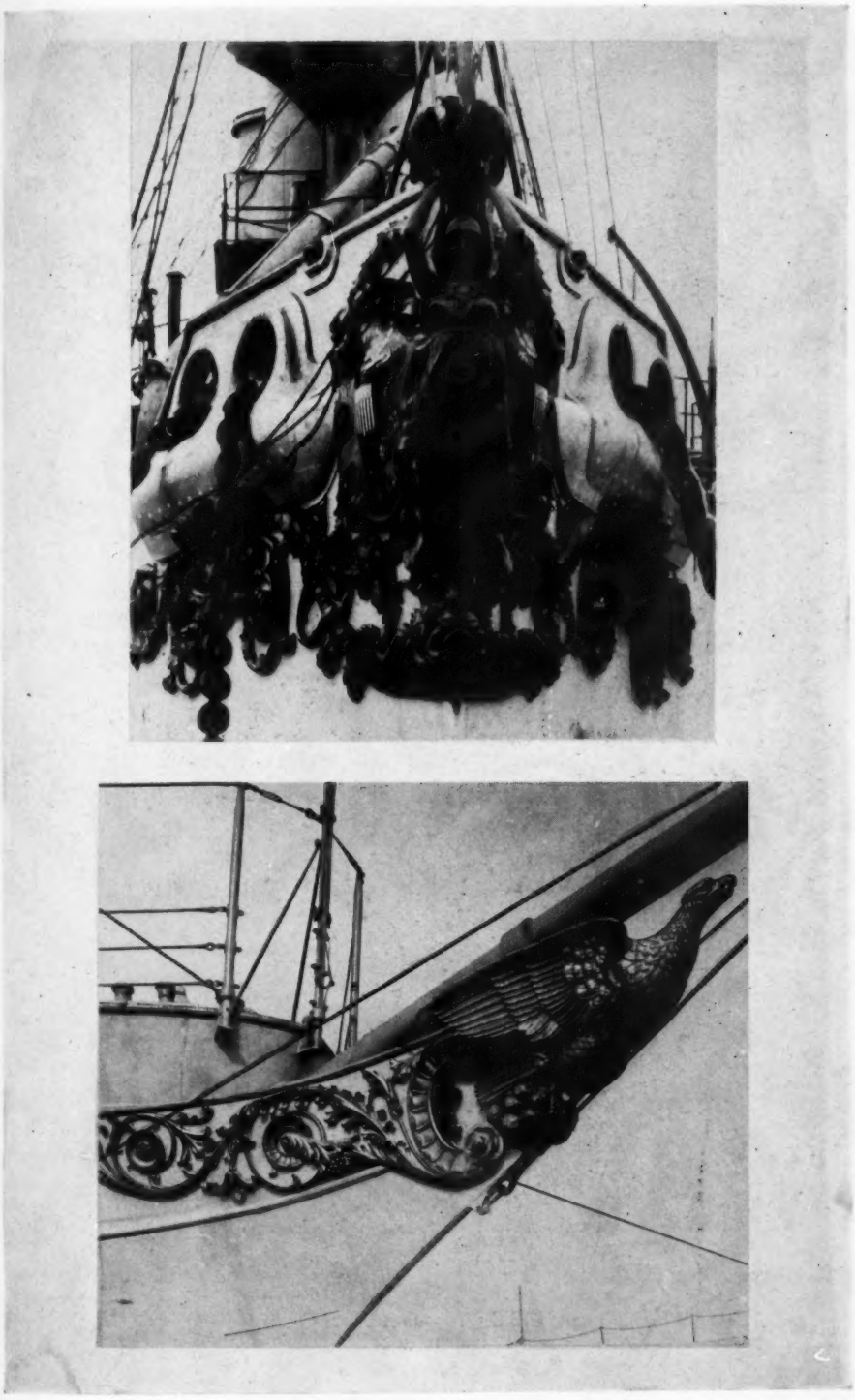
U.S.S. "Columbus"
1816

U.S.S. "Pennsylvania"
1837

U.S.S. "Franklin"
1815

H.M.S. "Macedonian"
Captured 1812

Bon Homme Richard



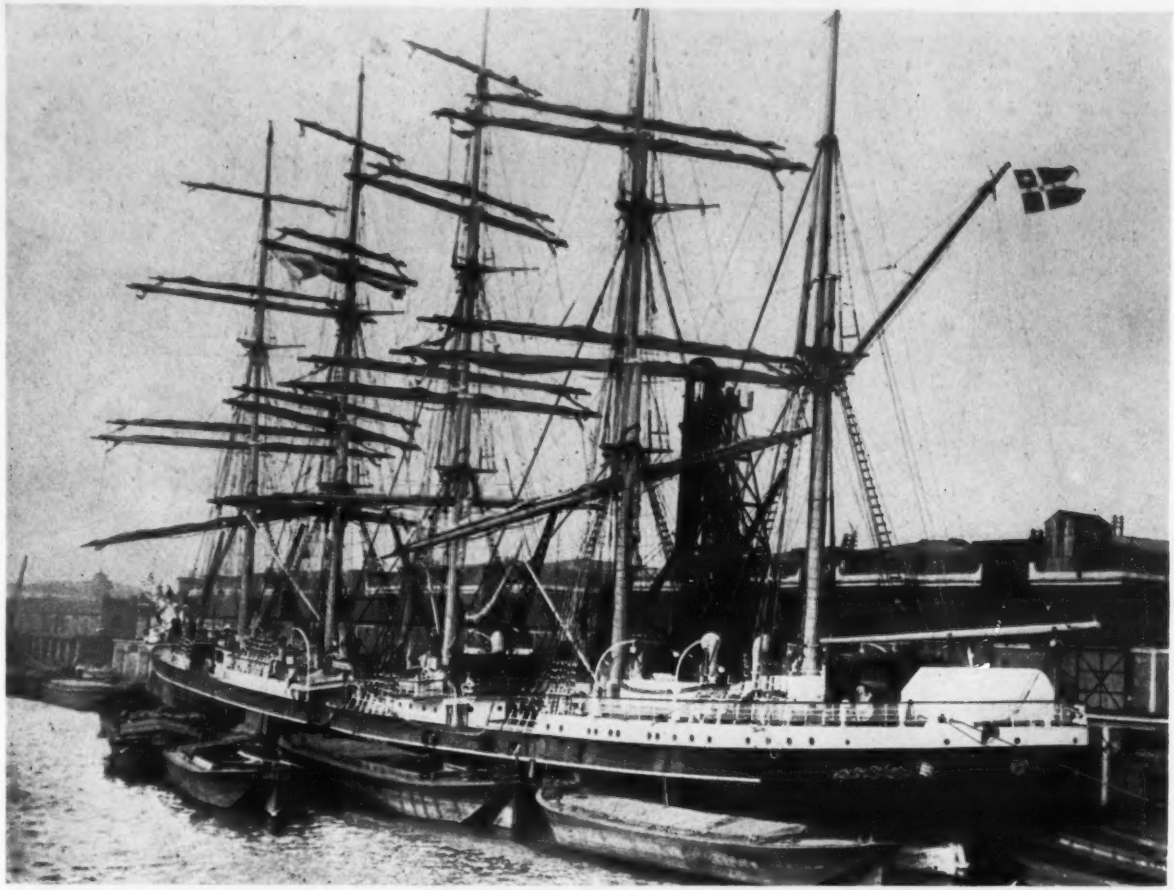
U.S.S. "Olympia," 1898
U.S.S. "Rainbow," 1890

U.S.S. "Dorothea"
1898

U.S.S. "Massachusetts"
1893

International Newsreel

FIGUREHEAD OF THE OLD DANISH SAILING VESSEL, THE "KOBENHAVN"



International Newsreel

THE DANISH SAILING VESSEL "KOBENHAVN"

Used as a training ship for Danish naval cadets. She is said to be the largest sailing vessel now afloat.

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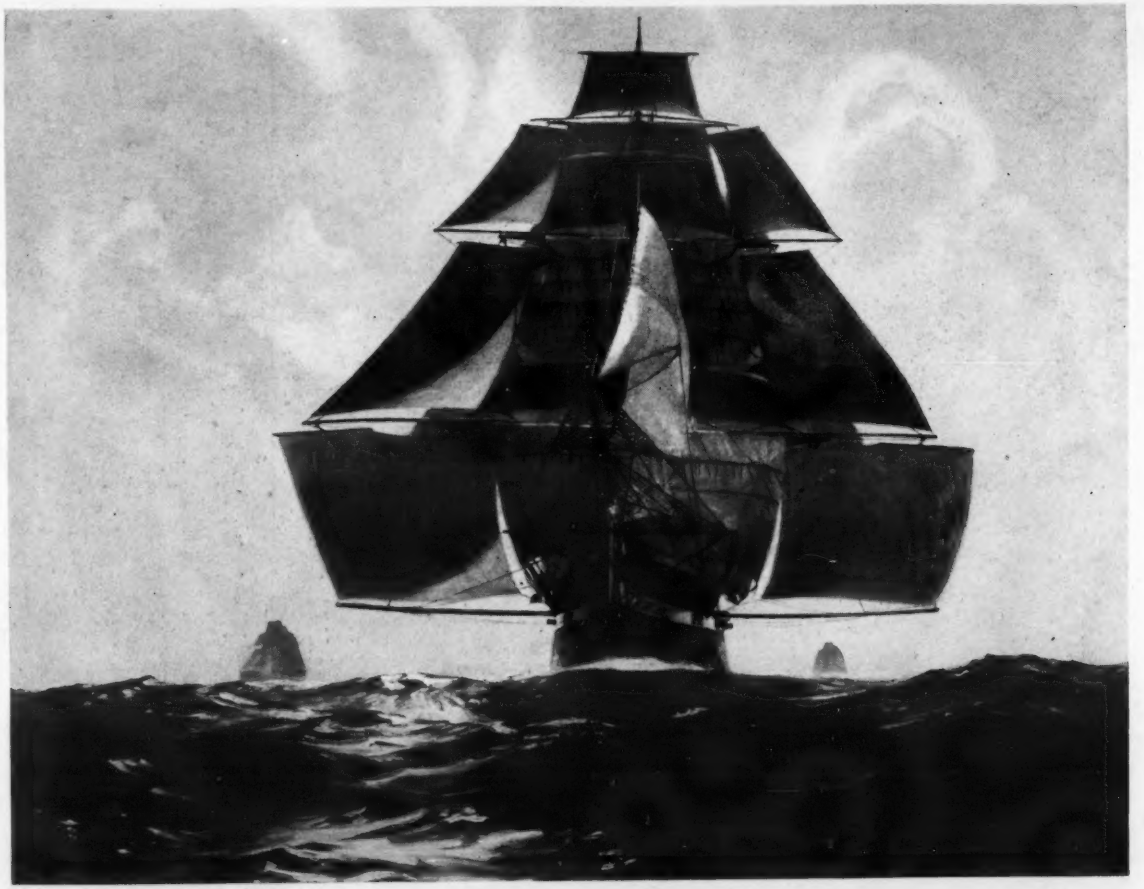


From a painting by C. R. Patterson

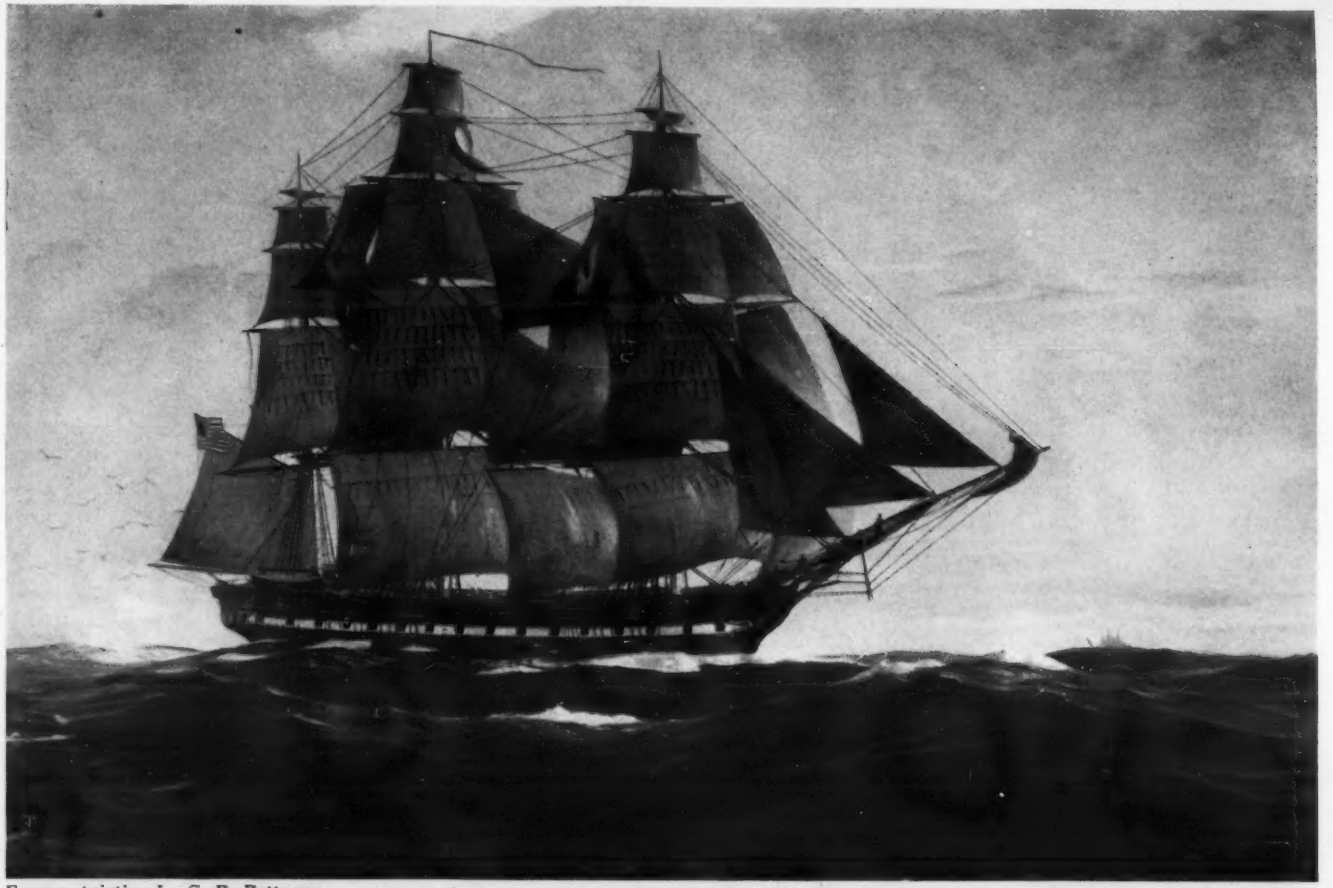
U.S.S. "CONSTELLATION"

From a painting by C. R. Patterson

"THE FLYING CLOUD"
Famous American Clipper Ship built by Donald McKay

From a painting by C. R. Patterson

"The Flying Cloud"
Famous American Clipper Ship built by Donald McKay



From a painting by C. R. Patterson

"Old Ironsides"
Used in the first drive to raise funds for the restoration of the *Constitution*

From a painting by John Ward Dunsmore and reproduced by special courtesy of the artist. This and the three following illustrations are copyrighted.

THE SURRENDER AT YORKTOWN—CALL TO THE PARLEY

"On October 17, 1781, at ten o'clock in the morning, a drummer in red mounted the enemy's parapet on the left, and began to beat a 'parley.' As for being heard he might have played till doomsday, but he could be readily seen, and the cannonading stopped. The drummer, with an officer waving a white handkerchief, advanced across the battle ground to meet the officers appointed by General Washington to receive them. This was preliminary to the surrender."

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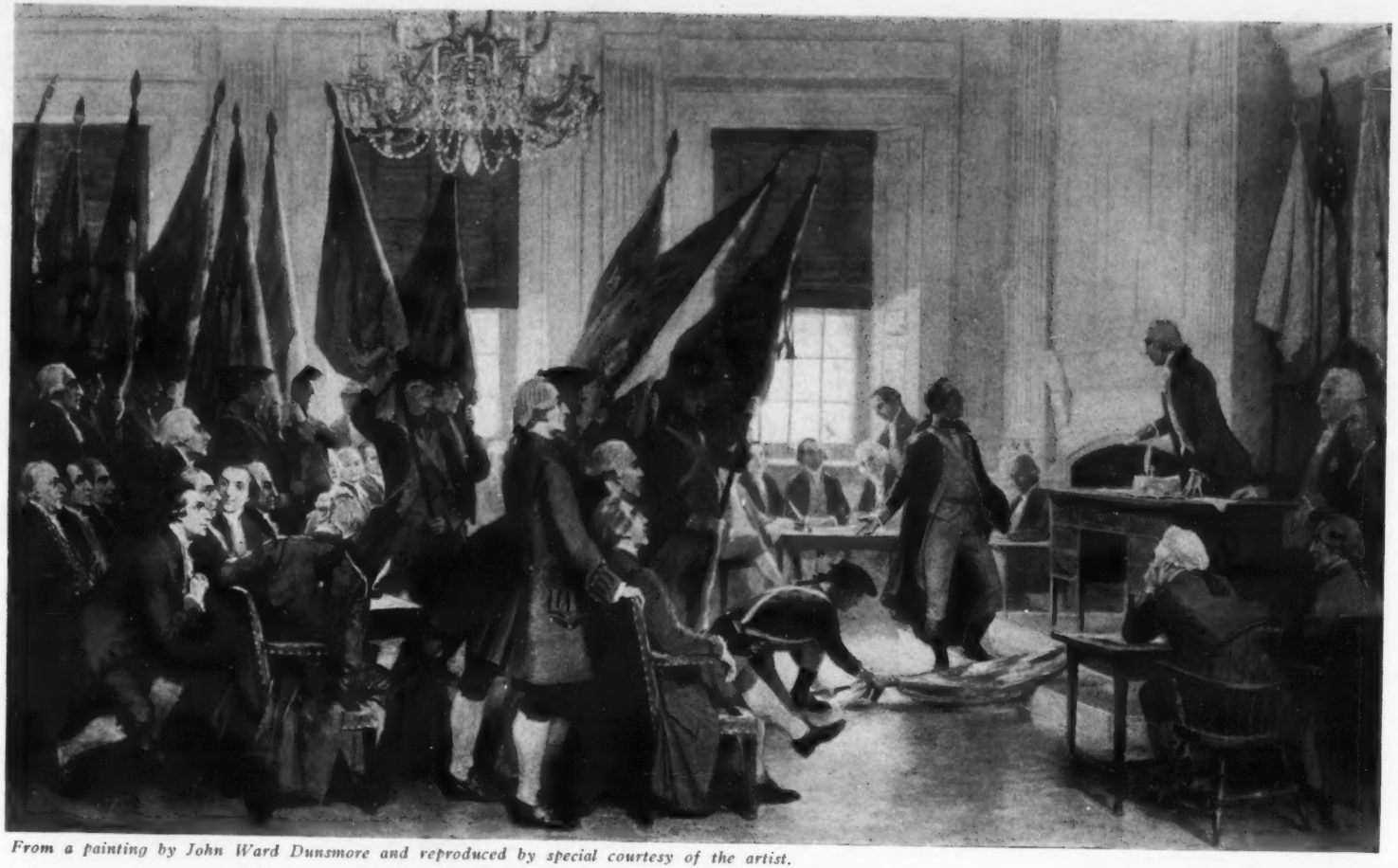
NEWS FROM YORKTOWN

"After the surrender of Cornwallis, General Washington sent his chief aide, Colonel Tilghman, with the news to the President of Congress in Philadelphia. Colonel Tilghman did not arrive in Philadelphia until midnight, and, riding up to the door of the house where Mr. Thomas McKean, the President of the Congress, lived, made such a clatter in arousing him that the night watch came up to arrest him for disturbing the peace. Just then Mr. McKean opened the door and received the news, and the rest of the night the watchman, in crying the hour, announced that Cornwallis was taken."



From a painting by John Ward Dunsmore and reproduced by special courtesy of the artist.

THE CAPTURED FLAGS FROM YORKTOWN LAID AT THE FEET OF CONGRESS—1781

"After the surrender of Cornwallis at Yorktown, Washington entrusted to Colonel David Humphreys, one of his aides, the honor of delivering the enemy's flags to Congress. Upon reaching Philadelphia, the guard was paraded through the principal streets escorted by the Philadelphia companies, including the famous 'Light Horse' troop. Thomas McKean was acting President of Congress, for the last time, and the French Ambassador was present. It was a most solemn and impressive sight, as Colonel Humphreys advanced to the steps before the President's desk and presented the reports General Washington had sent, giving the returns of prisoners, arms, ordnance, etc., and the sergeants advance, one by one and deposit the enemy colors. Eighteen German (eight Hessian, ten Anebach-Beyreuth) and Six British (Forty-third Regiment, two; Seventy-sixth Regiment, two; Eightieth Regiment, two) flags were surrendered on October 19, 1781."

Sea Power *and the* Yorktown Campaign

By COMMANDER A. H. MILES, *U. S. Navy*

HISTORIANS agree that the Yorktown campaign decided the American War for Independence. The surrender of Cornwallis at Yorktown, Virginia, on October 19, 1781, marks the successful close of the Revolution. It is true that peace by treaty was yet to come, but the decisive character of the event was at once recognized by Great Britain's civil and military leaders, and the following spring, after the surrender, brought suspension of hostilities, as if by common consent. American Independence was an assured fact.

In our eagerness to immortalize the name of the incomparable Washington and to do honor to the genius of his youthful coactor, Lafayette, we have all but forgotten the leading part played by sea power as embodied in the French Admiral Count de Grasse. The commander-in-chief on land, as every school child knows, played his part with consummate skill to win undying fame, but the story of the commander-in-chief at sea seems to have been relegated to the limbo of forgotten things—at least so far as school histories are concerned. Lafayette, a subordinate general, is in daily remembrance throughout the land but the commander-in-chief, Admiral de Grasse, upon whose decisions Washington predicated his every move in the final campaign, has almost passed from memory. But for the control of the sea gained by de Grasse the victory at Yorktown would have been impossible. Does America recognize its debt to the profound influence of sea power?

The story of de Grasse's sailing from Santo Domingo to succor the armies of the patriots in their darkest days, of his borrowing troops and money, of his ruse in deceiving the British West Indies Fleet, of his passage and arrival at the Chesapeake Capes, of his prompt landing of troops, of his protection and of his masterful tactics in defeating and out-maneuvering a large British fleet under trying circumstances, may have been told, but so long ago that the vast majority of Americans have either forgotten it or never heard of it. The purpose of this article is to revive this fascinating story and to bring into relief the determining influence of sea power on the outcome of the Yorktown campaign and the attainment of our separate national life.

There were many actors in this fateful drama—at widely dispersed points on land and sea—soon to take their rôles in what is termed the Yorktown campaign.

The beginning of the year 1781 finds Great Britain at war with France, Spain, and Holland, and a revolution going into its sixth year in her American colonies. The fleets of England and France had fought no less than three times without attaining decisive advantage. The empire of the West Indian waters remained unsettled and French troops were fighting in America under Count de Rochambeau. In this situation King Louis XVI of France decided to render secure his possessions in the West Indies and, if practicable, extend aid to the allies on the American continent.

Accordingly, a fleet was fitted out at Brest under the command of Admiral Count de Grasse.[1] It comprised twenty-one

[1] Francis Joseph Paul de Grasse-Rouville, Count de Grasse, Marquis de Tilley. Born in 1723, son of Captain Francis de Grasse-Rouville, of the French army. Captain of the *Robuste* (74) in 1775, in action off Ushant July, 1778. Chef-d'escadre (commodore) at Martinique in February, 1779. At the reduction of Granada, siege of Savannah, Georgia, and under De Guichen in 1780 rescuing the *Sphynx* and *Artesien* from superior English force. Given command West Indian Fleet 1781. Assisted at the capture of Tobago and sailed immediately for the Chesapeake to second the operations of Washington. Returned to West Indies, defeated and taken prisoner by Rodney, April 12, 1782. Arriving in London he was made informal agent to carry peace overtures to the French government. On return to France conduct investigated and exonerated, retired, and died January 14, 1788. Married three times, French Revolution drove surviving children to U. S. Daughters married

the enemy's flags to Congress. Upon reaching Philadelphia, the guard was paraded through the principal streets escorted by the Philadelphia companies, including the famous 'Light Horse' troop. Thomas McKean was acting President of Congress, for the last time, and the French Ambassador was present. It was a most solemn and impressive sight, as Colonel Humphreys advanced to the steps before the President's desk and presented the reports General Washington had sent, giving the returns of prisoners, arms, ordnance, etc. and the sergeants advance, one by one and deposit the enemy colors. Eighteen German (eight Hessian, ten Anebach-Beyreuth) and Six British (Forty-third Regiment, two; Seventy-sixth Regiment, two; Eightieth Regiment, two) flags were surrendered on October 19, 1781."

ships of the line, three frigates, and thirteen sloops, with the *Ville de Paris*[2] as flagship. On Thursday, March 22, 1781, the fleet, with a large convoy of 150 ships, set sail for Martinique in the Caribbean Sea. On March 29, when 450 miles off Lisbon, five sloops and forty merchantmen, under Bailly de Suffren, were detached to the East Indian station. The *Sagittaire* (50 guns) left the fleet on April 5 with a convoy of thirty vessels bound for Boston. These vessels carried 660 recruits and supplies for Rochambeau's army and arrived at their destination in June. The *Sagittaire* carried a letter from de Grasse to Rochambeau, dated at sea March 29, proposing joint action.

Thus begins the coöperation of de Grasse with the purposes of the revolution. In this he never faltered as future narration shows.

At daybreak, on April 28, after a voyage of thirty-six days (an unheard-of quick passage then for so many vessels), the fleet with convoy intact sighted land at Martinique.

Awaiting him in these waters was the English Admiral Rodney reënforced by the late arrival of Admiral Samuel Hood so that he now had some twenty-one ships of the line at his disposal. It is a long way from Martinique, St. Lucia and Tobago to Yorktown, yet the events which took place among those distant islands are closely related to the final scenes on the Chesapeake and must be examined preliminary to any account of the closing of the net around Lord Cornwallis. For, if Rodney and Hood had destroyed de Grasse at Fort Royal, or at Tobago, in the early summer of 1781, the French fleet would not have appeared off Yorktown, Cornwallis would have escaped, and the liberty bell would perhaps have rung in vain.

Upon the arrival of de Grasse off Martinique, he hove to on the windward (east) side of Martinique after having discovered the presence of Hood's ships to leeward. Early the next morning, with favorable winds, de Grasse rounded the southern part of the island, keeping his convoy close inshore until it reached the port of Fort Royal on the west side of Martinique. Here the French fleet was augmented by the junction of four ships of the line from Fort Royal which had been blockaded by the British under Hood with eighteen ships. A skirmish between the two fleets took place here. The British suffered badly and the consequences were equivalent to defeat. Had the British fleet been to windward of the island it would have been in a most favorable position for attacking de Grasse, encumbered as he was with a large convoy, but it had gotten so far to leeward that de Grasse was able to bring his convoy safely to port. For this false position Hood was severely blamed by Rodney but it may have been due to light winds and a lee current. At any rate, we know that Hood eagerly pressed the admiral to be allowed to cruise to windward.[3]

The English had now only eighteen ships to the French twenty-four and the latter were to windward. But de Grasse, for fear of exposing his convoy and of sustaining damages that might unfavorably affect the coming American venture, desisted from attack.

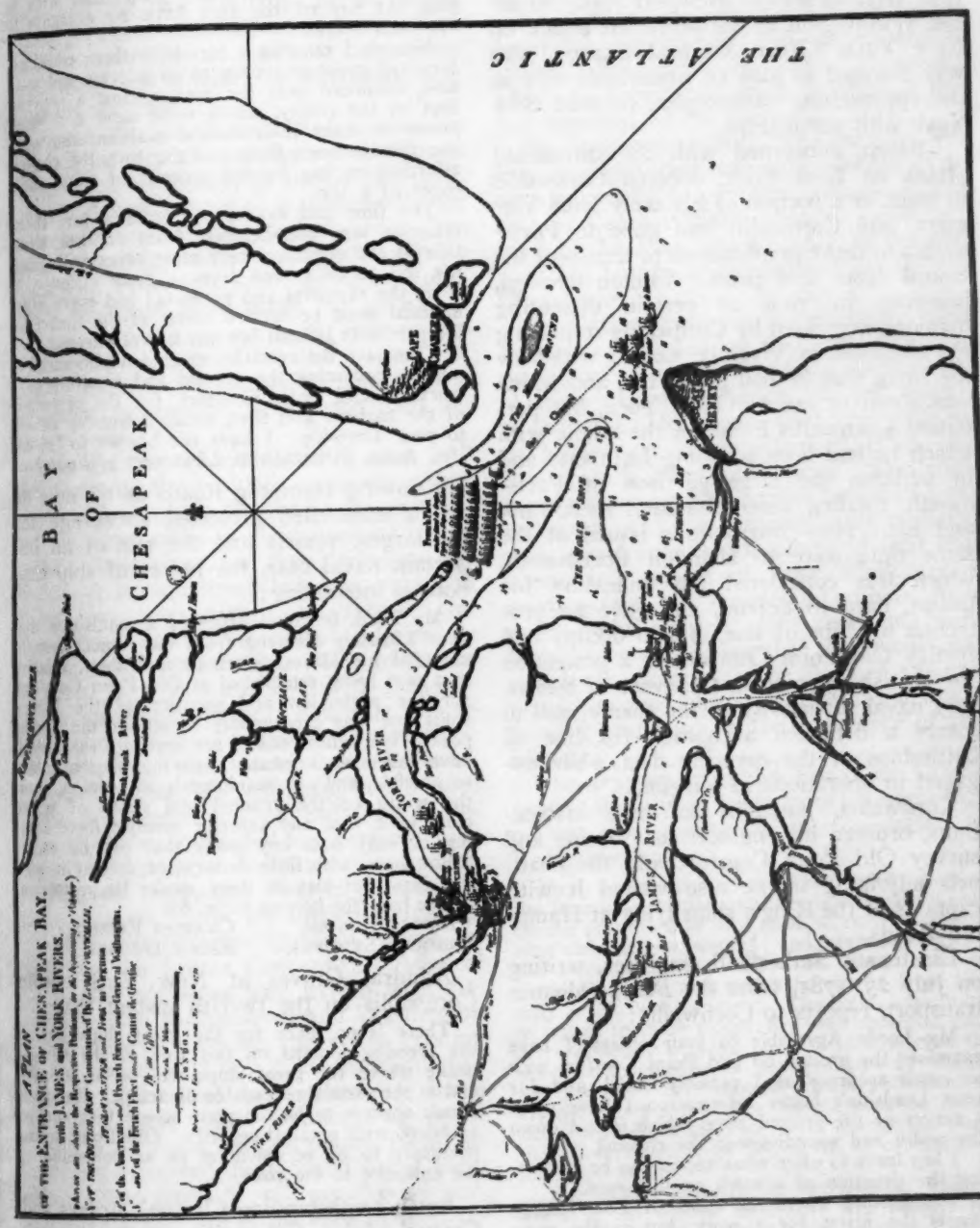
The islands of St. Vincent and Granada were revictualled; an armed expedition was sent against Gros Islet; St. Lucia and Tobago were captured. On June 5, the English fleet approached but later bore away. De Grasse laid in wood and water at Fort Royal and made some repairs, sailing for Cape François (now Cape Haytien) on July 5, and arriving on the sixteenth with a convoy of 150 merchantmen. Five more ships joined him here under Commodore Chevalier de Monteil, who had just returned from an expedition with the Spanish in the taking of Pensacola, Florida.

For the moment let us shift the scene from Santo Domingo to America and visualize the situation there. Count de Rochambeau with his army had formed junction with Washington and under his direction was before New York besieging Sir Henry Clinton, the British commander-in-chief. General Lafayette, with American troops, and General (Mad Anthony)

prominent New York merchants and have descendants in families of Fox, Livingston, Fowler and Coster.

[2] A magnificent three decker of 110 guns, unsurpassed in her time.

[3] Hood to Rodney, "I do not find myself pleasant in being to leeward; for should an enemy's fleet attempt to get into Martinique and the commander of it inclines to award battle, nothing but a skirmish will probably happen which in its consequences may operate as a defeat to the British squadron, though not a ship is lost and the enemy suffer most." (Naval Records Society, "Letters of Sir Samuel Hood".)



A PLAN
OF THE ENTRANCE OF CHESAPEAK BAY,
with JAMES and YORK RIVERS.

Wayne on the Virginia peninsula above Yorktown, were dogging Lord Cornwallis' footsteps in Virginia. French Admiral de Barras with a small fleet of eight ships and four frigates was at Newport ready to assist Washington in the projected attack on New York. Rear Admiral Graves, who was destined to play an unenviable rôle in the approaching catastrophe, covered New York with seven ships.

Clinton, concerned with the threatened attack on New York, ordered Cornwallis to transfer a portion of his army from Virginia, and Cornwallis had gone to Portsmouth to make preparations to transport the troops from that point. Clinton decided, however, in view of certain dissenting opinions expressed by Cornwallis respecting the situation in Virginia, not to withdraw the force that he had called for, and which was about to sail for New York, but permitted Cornwallis to retain the whole with which he had been pursuing Lafayette and in addition the large garrison at Portsmouth, totaling seven thousand men, rank and file. New instructions issued at the same time were to abandon Portsmouth, which was considered too unhealthy for troops, hard to defend, and gave no protection to ships of line, and to occupy and fortify Old Point Comfort as a protection for British shipping in the event of temporary naval superiority of the enemy, and to insure a defended anchorage for line of battleships of the covering fleet while engaged in operations in Virginia.

Cornwallis, pursuant to these instructions, ordered his engineer to examine and survey Old Point Comfort and the channels adjoining it; he also visited it with captains of the King's ships lying at Hampton Roads.

Lieutenant Sutherland, engineer, writing on July 25, 1781, from the *Billy*, ordnance transport, reports to Cornwallis:

My Lord: Agreeable to your orders, I have examined the ground on Old Point Comfort with as much accuracy as I possibly could, and for your Lordship's better information I have made a survey of the ground, upon which is laid down the width and soundings of the channel.

I beg leave to offer what appears to be respecting the situation of a work on that spot.

The ground where the ruins of Fort George lay is the fittest for a work, but at the same time must be attended with many inconveniences.

The level of the ground there is about two feet higher than the high water mark, which, from its very short distance to the deep water, must soon be destroyed by a naval attack.

The great width and depth of the channel give ships the advantage of passing the fort with very little risk. I apprehend fifteen hundred yards is too great a distance for batteries to stop ships, which is the distance here. Ships that wish to pass the fire of the fort have no occasion to approach nearer.

Nor do I imagine a fort built there could afford any great protection to an inferior and weak fleet, anchored near the fort, against a superior fleet of the enemy, which must have it in their power to make their own disposition, and place our fleet between them and the fort, the channel affording no bay for the security of ships under cover of a fort.

The time and expense to build a fort there, must be very considerable, from the low situation of the ground, which must necessarily cause the soil to be moved from a great distance, to form the ramparts and parapets; and every other material must be carried there, as the timber on the peninsula is unfit for any useful purpose.

These are the remarks which have occurred to me on examining the ground and situation of a work on Old Point Comfort, for the protection of the harbour and fleet, which I humbly submit to your Lordship. I have the honour to be, &c.

ALEX. SUTHERLAND, *Lieutenant of Engineers.*

Knowing Hampton Roads as we now do as an unexcelled protected anchorage for the largest vessels and the site of an important naval base, the report of ship captains is interesting:

My Lord, In consequence of a requisition that your Lordship received from the commanders in chief of his Majesty's troops and ships, relative to a post being established at Old Point Comfort, for the protection and security of the King's ships that may occasionally be sent to the Chesapeake: We, whose names are hereunto subscribed, have taken as accurate a survey of that place as possible, and are unanimously of opinion, from the width of the channel and depth of water close to it, that any superior enemy's force coming in, may pass any work that can be established there, with little damage, or destroy it with the ships that may be there, under its protection.

We have the honour to be, &c.

CHARLES HUDSON, CHARLES EVERITT,
THOMAS SYMONDS, RALPH DUNDAS.

Admiral Graves at New York wrote Cornwallis on the twelfth instant that:

There is no place for the great ships during the freezing months on this side of the Chesapeake where the great ships will be in security and at the same time capable of acting. Hampton Roads appears to be the place where they can be anchored with greatest security. Old Point seems necessary to be occupied by us as commanding the entrance to the road.

But notwithstanding Clinton's orders and Graves' advice, Cornwallis, on the strength of the opinions of his engineer and the small ship commanders (with which he entirely concurred) decided to abandon the Old Point project. In conformity with

what he conceived to be the spirit of his orders, Cornwallis, before hearing from Clinton, immediately seized and fortified Yorktown, and Gloucester on the opposite shore, as the best available harbor which would give protection to line of battle ships. To this move Clinton made no subsequent objections and Cornwallis remained here until his surrender.

Clinton afterwards held that Cornwallis violated his orders and that, even though he occupied Yorktown, he should have held Old Point until report of conditions should have been made and further orders received. It is probable that had Cornwallis taken Old Point instead of going to Yorktown, he could have made his escape to Norfolk and thence south as soon as the French fleet appeared off the Capes. In this light, Clinton's charge of disobedience of orders appears to have more than ordinary weight.

It is not the writer's desire to enter into the merits of the fruitless controversy that raged afterwards in England between Clinton and Cornwallis in their attempts to exculpate themselves for the Yorktown debacle. It is significant, however, that Old Point was soon afterwards fortified by Washington at the instance of Admiral de Grasse, who feared Cornwallis might be succored by a reënforced British fleet entering the James River. Knowing this to have been de Grasse's opinion, it seems fair to assume that he would never have attempted to force the entrance, had it been fortified. Graves' recommendations therefore appear well founded and here outcrops the oft told story of a difference in opinion between the Army and Navy in joint operations with its lesson for unified command.

Let us return again to Haiti, where we find that the frigate *Concorde* of Admiral de Barras' squadron had arrived with dispatches from Rochambeau and Washington which clearly revealed the crisis existing in the colonies, "Come!" Rochambeau had written. "America is in distress. Bring with you from Santo Domingo troops of Marquis de Saint Simon, obtain from the colonists 1,200,000 livres[4] and bring them also." And later, "I will not deceive you, sir, these people are at the ends of their resources"; and again, "General Washington has but a handful of men . . . . the army of Cornwallis is in the heart of Virginia . . . . you can well understand how urgent it is that you bring some troops with you; this country is at bay, all its resources are failing at the same time."

Rochambeau suggested as his opinion the favorable opportunity for an expedition against Cornwallis on the Chesapeake, which he considered more practicable and less expected by the enemy.

He further entreated, "Send the *Concorde* back promptly that we might take the earliest opportunity to continue our march with that of General Washington so as to proceed by land as expeditiously as possible and join him in any stipulated part of the Chesapeake."

De Grasse made up his energetic mind at once, discarded all ideas of detaching war vessels from his fleet for a convoy then about to return to France, and put himself to the task. He at once conferred with M. de Lillancourt, commandant of Haiti, and the Spanish Admiral Solano. The commandant arranged to furnish him with a detachment of 3,000 infantry, 100 artillerymen, 100 dragoons, 100 pieces of field ordnance and several of siege artillery and mortars from the regiments Gatinois, Agenoise, and Touraine. The regiments were furnished on condition that they would not remain in America after October 15, and that while away the Spanish Admiral would furnish protection to the commerce of the island.

The reasons given by Count de Grasse for his inability to leave troops beyond that period were presented in this letter to Rochambeau:

> First, because part of them are under orders of the Spanish generals and have been obtained only on the promise that they shall be returned by the time they will be wanted; and, secondly, because the other part are destined to the garrison of Santo Domingo, and cannot be spared from that duty to M. de Lillancourt. The entire expedition, in regard to those troops, has been concerted only in consequence of your request, without even the previous knowledge of the ministers of France and Spain. I have thought myself authorized to assume this responsibility for the common cause, but I should not dare so far to change the plans they have adopted, as to remove so considerable a body of troops.
>
> You clearly perceive the necessity of making the best use of the time that will remain for action. I hope the frigate which takes this letter will have such dispatch that everything may be got in readiness by the time of my arrival, and that we may proceed immediately to fulfill the designs in view, the success of which I ardently desire.

[4] French coin equivalent to about twenty cents, gold.

De Grasse despatched the *Concorde,* on July 28, to Newport with the intelligence that the whole force would be embarked in twenty-five to twenty-nine vessels of war to sail on August 13, proceeding directly to the Chesapeake. The money requested could not be obtained at Haiti but recourse was had to the Spanish commissary Senor Salavadra who agreed to go to Havana with letters to the governor and to do his best to assist the public treasury by purses of individuals. It must be said in honor to the Spanish ally that all were eager to do so, ladies even offering their diamonds.

At this time a large convoy was ready to sail from Haiti for France and de Grasse was expected to furnish several ships as an escort. He upset all tradition, however, by refusing to weaken his force for the benefit of the "trade" and deliberately postponed the sailing of the convoy—a most unusual thing to do—until he should have returned from North America. He further showed his good judgment by embarking the troops on his ships of war instead of on transports which would have tended to slow up the operation.

To reach America de Grasse took the route via the old Bahama channel in order to prevent the British from knowing of his intention to go to America and also to obtain the money from Havana.

The frigate *Aigrette* was detached from the fleet and touched in Havana for the money and rejoined. The fleet then shaped course through the Florida straits and, favored by the Gulf Stream, headed for the Chesapeake via Cape Hatteras.

In the meanwhile, what had Rodney been doing to permit de Grasse to sail in force for America without seeing the French fleet neutralized? With keen insight, as early as May 3, he had warned Admiral Arbuthnot at New York of its arrival in the Caribbean Sea: "that you may be on your guard," are his words, "should they visit the coasts of America, in which case I shall send every assistance in my power."

Admiral Graves had succeeded Arbuthnot as commander-in-chief but soon after getting this intelligence sailed off on a cruise to the eastward to intercept ships with money and supplies for the revolutionists bound for Boston. When Rodney heard that de Grasse was going to Cape François, he divined a movement north during the hurricane months, and promptly sent a second dispatch to Graves at New York by the sloop *Swallow* (sixteen guns) commanded by Captain Wells. He advised that in all probability de Grasse would proceed to the Chesapeake, therefore recommended to him to make junction with the squadron he should either bring or send[*] to his assistance off the Capes of Virginia, and to station frigates to look out and to give his squadron necessary information relative to affairs in America.

Commodore Affleck, who then commanded the port of New York, sent the captain to sea within twenty-four hours in quest of Graves. Coming in sight of a privateer he gave chase and took her, but falling in afterwards with three privateers he was obliged to run the *Swallow* ashore on Long Island. The dispatches he sank unopened claiming not to have known their importance. Thus we have the example of a captain, either through over-zealousness or greed, who by giving chase while carrying dispatches, sacrificed vital information. Thus the unfortunate Graves remained in ignorance of de Grasse's movements and of the coming of the British squadron.

As Rodney reluctantly left for home he detached Admiral Samuel Hood with fourteen ships of the line, six frigates and one fire ship to join Graves and head off de Grasse. Rodney, through misinformation, underestimated the number of vessels that de Grasse had taken north, and with four ships sailed for home escorting a convoy, and, in addition, weakened Hood by detaching two ships for convoy duty to Jamaica with orders for them to join Hood later. The absence of these six ships, which were sacrificed for the "trade," thus hampered the purely military phase of the operations and was the immediate cause of British naval inferiority in the fleet action that followed.

Sailing up the coast Hood looked into the Chesapeake on August 25 (just five days before de Grasse's arrival), also the Delaware; he found no French, nor was there the expected frigate or any news of Graves. Continuing on to New York he reported the situation to Graves, who for

[*] Rodney hoped until the last minute to go himself instead of sending Hood, but his health broke down and he had to return to England for an operation for hernia. He returned to the West Indies too late to take part in the Yorktown campaign.

the first time learned[6] of de Grasse's approach and the threatened danger in Virginia. On the evening of the same day, August 28, came advices that de Barras had left Newport on the twenty-fifth with his squadron, presumably for the Chesapeake.

Graves instantly joined his five ships[7] of the line and one fifty-gun frigate with Hood, assumed command of the fleet of nineteen ships, and on August 31 sailed for the Capes hoping to cut off de Barras before he could effect a junction with de Grasse.

Let us now turn our attention for the moment to the situation on land. With the arrival of the *Concorde* at Newport, bringing intelligence that de Grasse had sailed for the Chesapeake, Washington ordered Lafayette to take a position that would best enable him to prevent a possible retreat of Cornwallis from Yorktown to the Carolinas. Under cover of a cleverly executed feint against Clinton at New York, Washington started for Virginia with the combined forces of himself and Rochambeau. All roads now led to Yorktown. The net was drawing closer.

At the close of August the picture is this: Cornwallis fortifying leisurely at Yorktown, Wayne on the James at Harrison Landing, Lafayette on the Pamunkey, Washington marching down through Trenton, de Barras on his way to the Chesapeake with troops and heavy siege artillery, Graves sailing from New York for the Capes, de Grasse entering Lynnhaven Roads. Cornwallis in serene bliss was still ignorant of Washington or de Grasse!

On August 30, de Grasse with twenty-eight ships of the line and five frigates, anchored nine miles south and east of Cape Henry,[8] out of sight of land by advice of coast pilots, while the entrance of the bay was being reconnoitred. Next day, the thirty-first, the fleet anchored in Lynnhaven Bay in three columns.

The frigates *Glorieux*, *Aigrette*, and *Diligente* were scouting ahead upon entering the bay: they discovered the British frigate *Guadeloupe* and corvette[9] *Loyalist* anchored at the entrance and pursued them to the mouth of the York River. The *Guadeloupe* escaped up the river, but the *Loyalist* was captured. Nowhere was it expected that the French would bring so large a force; Graves lost information as to their numbers by the carelessness of these ships which had been ordered to keep underway off the Capes, but both were surprised at anchor. The neglect of these subordinate captains cost Graves all important intelligence; he was totally ignorant of the grave danger at hand. It is logical to suppose that if Graves had known the strength of de Grasse before reaching the Capes, he would have aimed to waylay and capture de Barras, thus denying the besieging army troops and the heavy siege guns necessary to the reduction of the Yorktown defenses. This dereliction without doubt affected the general outcome of the campaign for:

> Had Admiral Graves succeeded in capturing that squadron, it would have greatly paralyzed the efforts of the besieging army, if it would not have prevented its operations altogether; it would have put the two fleets nearly on an equality in point of numbers and would have arrested the progress of the French arms for the ensuing year in the West Indies; and might, possibly, have created such a spirit of discord between the French and Americans, as would have sunk the latter into the lowest depths of despair; from which they were only extricated by the arrival of the forces with de Grasse.[10]

The *Ville de Paris* was immediately boarded by Lieutenant Colonel Gimat, sent by Lafayette to concert with the admiral. De Grasse proved himself to be a man of action and at once (September 1) detached forty boats from the fleet to transport the 3,300 troops of Marquis de St. Simon to Jamestown Island in the James, where they made junction with Lafayette.

Taking part in this troop movement, and in position to prevent Cornwallis from escaping across the James River to the southward, was the *Experiment* (50 guns), and the sloop *La Courageuse* (50 guns), *Aigrette* (32 guns), *Andromache* (32 guns), *La Diligente* (26 guns), and *La Guadaloupe* (24 guns), while the York was blockaded by the *Glorieux* (74 guns), *Triton* (64 guns), and the *Valient* (64 guns). These detachments reduced the strength of the

[6] In consideration of the general situation Graves has been criticized severely for not exerting himself to secure information. He had sufficient frigates for lookout and scouting purposes.

[7] The *Prudent* and *Robuste* (two deckers) were being overhauled and were left behind, neither could be equipped within ten days.

[8] Location familiarly known to present day naval officers as "The Southern Drill Ground."

[9] Flush deck vessel having one tier of guns ranking next below a frigate.

[10] Naval Researches, etc., Capt. Thomas White, R.N., published in 1830.

main fleet to twenty-four sail of the line and deprived de Grasse for the time being of much needed scouting vessels and signal repeating ships.

On the evening of September 2, General du Portail brought de Grasse dispatches from Washington announcing the departure of de Barras from Newport and asking for the assistance of light vessels to transport his troops from the head of the Chesapeake. All vessels under sixty-four guns were ordered prepared for this service.

The fleet was in Lynnhaven Bay waiting for further news from Washington and the return of its boats and boat crews, when on September 5 at 8:00 A.M., the lookout frigate off the Capes signaled the sighting of twenty or more sail to the eastward under foresails and topgallant sails steering for the entrance. It soon became evident from the numbers that it was the British and not Admiral de Barras who had been expected.

As soon as he had ascertained the number, strength, and disposition of the enemy, de Grasse made signal to prepare for battle, to recall boats from watering, and for the fleet to be ready to get under sail. At noon, the current favoring with the full run of the ebb tide, the signal was made to slip cables[11] and form line promiscuously as the ships could get underweigh. The wind was northeast with fresh breezes. De Grasse's decision to meet the enemy in the offing was due to his well known disinclination to engage without maneuvering room and to the realization of his own numerical superiority in ships of the line. The hope of making a junction with or favoring the expected de Barras was also an important reason for not remaining at anchor.

Nothwithstanding the handicap of the absence of ninety officers and eighteen hundred of the best seamen, who were in the James assisting the debarkation of troops, the captains applied themselves so diligently that the fleet was under sail in less than three-quarters of an hour and the line formed. Commodore Bougainville in the *Bourgogne* commanded the van division. The *Languedoc,* commanded by M. de Monteil, Commodore of White and Blue squadron, in getting underweigh happened to be the next ahead of the *Ville de Paris,* and de Grasse, observing that no general officer was in his rear, gave Monteil a verbal order to go take command there.

The relative strength of the fleets about to be engaged were: French, twenty-four sail of the line, and British, nineteen, constituted as follows: French, one 110 (3 decker), three 80's, seventeen 74's, three 64's; British, two 98's (3 deckers), twelve 74's, one 70, four 64's (besides seven frigates).

It was not until 9:30 A.M. that Graves' frigate scout *Solebay* sighted the French fleet in the southwest and immediately made signal to this effect. At 10:00 A.M. Cape Henry bore southwest from the flagship *London* at a distance of eighteen miles. At 10:30 cruisers were called in and signal made to prepare for action. By 11:00 A.M. the British were sufficiently near to identify the French fleet as one composed of many large ships at anchor supposed to be the enemy, from which it was taken for granted that de Barras had joined de Grasse. Signal was then made for line of battle ahead two cables' lengths between ships and at noon the ships were taking their stations. The fleet was in three divisions, Admiral Sir Samuel Hood in the van on the *Barfleur,* Rear Admiral Francis Drake had the rear on the *Princessa,* and the commander-in-chief was on the *London,* the middle ship of the center division where his signals could best be seen and control could be exercised. Frigates were stationed to windward of each division to repeat the signals of the flagship.

At the moment that the French fleet was getting underweigh, the British main body bore east one-half north from Cape Henry, distance fifteen miles. In approaching the Cape only three miles in as many hours, Graves was holding well off shore with wind on his port quarter. The weather was fair, sea moderate, wind fresh and inclined to be squally, so that the *London* and other ships furled topgallant sails and took a single reef in the topsails. The visibility was unusually high.

At 12:45 the signal was made to close to one cable's length and at 1:00 to form on an east and west line at one cable's length. At 1:08 the admiral desired the rear to close up and signaled for more sail to be made. The leading ship was then directed

[11] To get underweigh with despatch. Done by unsplicing the cable on deck, to the anchor end of which is affixed a buoy and buoy rope to be picked up later.

BRITISH SHIPS
FRENCH SHIPS
CAPE CHARLES
MIDDLE GROUND
POSITION AFTER WEARING
LYNN HAVEN ROADS
CAPE HENRY
NAVAL ACTION OFF CHESAPEAKE CAPES
SEPT. 5-1781.
TIME 2:15 P.M.
PLATE-1.

to lead more to starboard heading up for the Middle Ground.[12] At 1:25 the signal was again made for the rear to make more sail and several individual ships were directed to keep station. The admiral was very particular about the line and continually admonished his ships for being off station. At 2:00 o'clock the enemy was definitely made out to be twenty-four ships of the line and two frigates, van bearing south standing to the eastward with larboard tacks aboard (port tack).

At 2:04 Graves finding his van approaching too near the shoals of the Middle Ground, made preparatory signal to veer (wear), and eleven minutes later wore the fleet together and formed the line upon the same tack as the French, bringing to—slowed to steerage way—in order to let the enemy van come abreast of his own. At this time the French van bore south from the *London* (distance three miles) and therefore was abreast the British center. After the execution of this maneuver, the old van became the rear and the British were on the port tack, heading to the eastward nearly parallel to the enemy.

It was clear that Graves intended to keep a formal and deliberate line of battle matching van for van and rear for rear. Although outnumbered by five line of battle ships, he had the advantage of the weather gage by which he retained the initiative of attack and choice of position. Likewise, he had the advantage of speed[13] due to all of his ships having been coppered—the latest innovation of that day which had not been generally adopted by the French.

The maneuvers preliminary to the actual engagement should be carefully examined as the final outcome can be traced directly to their influence. The British, being five ships less, naturally did not extend so far as the French rear which in fact was in bad order, not yet being clear of Cape Henry.

At 2:30 Graves made the signal for the leading ship, *Shrewsbury,* to lead more to starboard in order to approach the enemy. Had all ships changed course simultaneously toward the enemy, the line of bearing parallel to them would have been preserved, but as all ships followed the leader the British column formed a slight angle with the enemy's line. This angle was intensified, forty-seven minutes later, by the repetition of the signal for the van ships to lead in towards the enemy. At 3:34 the signal for the van to lead in was again made, increasing the angle between fleets still further. "This was the original and enduring cause of a lamentable failure by which seven of the rear ships, in an inferior force undertaking to attack, never came into battle at all."

At 2:40 the *Salamander* (fire ship) had been given the order to prime, indicating that she might be needed.

The wind all the time was hauling to the eastward which made the ships of the French van find themselves too far to windward to preserve a well-formed line, and de Grasse made them alter course to starboard two points that all ships might have the advantage of engaging together, and they kept the wind when sufficiently in line to leeward. Graves followed with his van ships as before noted, but with the "line ahead" signal still effective. This brought the rear and some of the center ships still further from the enemy's line which all the time was falling off to leeward. As the headmost ships approached, Graves made signal for all ships to close to one cable and bear down and engage—the signal for the line still flying.

The *London,* who had her main topsail to the mast,[14] filled and bore down. According to the log of the *London* recorded by the Flag Secretary, at 4:11 the signal for the line ahead was hauled down that it might not interfere with the signal for close action. The headmost ships, when within musket shot, opened the engagement with a brisk fire which extended successively to the twelfth ship in line or two ships to the rear of the *London.*

The flagship, by leading, had advanced further towards the enemy than some other ships ahead, and, while luffing to bring her lee broadside batteries into action, blanketed the fire of the *Royal Oak* next ahead.[15] Other ships toward the van were

[12] Sandy shoals lying three miles to the north of Cape Henry. Between it and the Cape is the main ship channel.

[13] Battle speed ordinarily ranged between three and five knots, depending upon the direction and strength of the wind. Sail was mostly confined to topsails and foresail. In this case speed is estimated at about four knots.

[14] Hove to with bare steerage way on.

[15] Captain White, an eye-witness on one of the rear ships, in *Naval Researches,* etc., attributes this confusion to have been caused by ships ahead of the *London* underestimating the distance and

BRITISH SHIPS
FRENCH SHIPS
6 MILES TO CAPES
NAVAL ACTION OFF
CHESAPEAKE CAPES
SEPT. 5-1781
TIME 4:43 P.M.
A - "LONDON" BLANKETING FIRE OF "ROYAL OAK".
B - "TERRIBLE" DAMAGED LEAVING THE LINE.
C - HOOD'S DIVISION OUT OF RANGE
PLATE-2

likewise crowded which caused Graves at 4:22 to hoist again the signal for the line ahead.

While the ships were being extended, the *London* hove to while firing. Five minutes later the signal for the line came down and the signal for close action was again made. At 5:20 signal for close action was repeated. The wind continued to haul ahead bringing it about east which placed the French van to windward of the center. De Grasse wishing to make the action general bore off his vanguard. The British rear division, under Admiral Hood, at 5:30 bore up[16] but was unable to get within effective range. At 6:15 Graves sent the *Soleby* to ships in the rear, and the *Fortunée* to those in the van with orders for his ships to keep in a parallel line with the enemy and well abreast of them during the night. At 6:23 he made signal for line ahead at one cable's length and hauled down that for close action.

Darkness terminated the battle at 6:30. At 9:00 the *Montague* reported being so badly damaged she could not keep the line. The *London* had her fore and main masts dangerously wounded, standing and running rigging much cut, inner gammoning of bowsprit shot through, and sails torn. The *Shrewsbury's* captain lost a leg, the first lieutenant (executive) was killed and both topsail yards were shot away. The *Intrepid* was badly cut up in every respect. The *Princessa's* main top-gallant mast was hit and about to fall, and Admiral Drake shifted his flag to the *Alcide*. The *Terrible* had so many leaks that she was set fire to on the night of the ninth. The *Ajax* was hulled very severely, and leaky. This was no sham battle, the results were decisive enough.

The British casualties were ninety killed and 246 wounded, while the French gave their loss as 200 killed and wounded, including the captain of the *Reflechi*.

Before proceeding further, it is well to comment on certain phases of the action. It will be noted that at no time were the last seven ships of the British line near enough to take an effective part. Thus, we have the sad spectacle of an attacking inferior fleet reducing its effective strength from nineteen to twelve by failure of the rear vessels to get into action. This failure was due to the ancient fetish that an enemy fleet could only be approached in a regular line of battle equally extended with that of their opponent, and in consequence of the oblique angle which the British line made with the French, with the van nearer the enemy. Those British vessels which did engage approached nearly head-on, which is an inherent disadvantage of the weather gage, thus exposing themselves to a destructive diagonal or partly enfilading fire. Thus Graves almost exactly repeated the tactical blunder of Byng before Port Mahon, Minorca, in 1756, for which mistake he was court-martialled and shot.

Admiral Hood, a brilliant officer whose ability as a tactician is unquestioned, claimed that the enemy van and center should have been attacked before the rear had gotten clear of Cape Henry. The vessels in leaving Lynnhaven straggled badly because the lack of weatherly qualities of some made a tack to port necessary before they could clear the Capes. Hood estimated that a full hour and a half elapsed within which the enemy van and center could have been attacked unsupported.

He also avers that the commander-in-chief committed the further mistake of keeping the signal for the line of battle flying until nearly sunset. Hood took the view that, while that signal was flying, it was obligatory on him to maintain the position in column, each ship following his leader. It appears that he would have willingly taken a more active part were it not for the persistence of his superior in maintaining the line which kept the rear division where it could be of no service. This is one of the instances where a kind of sanctity appears to have been attached to "the line" in the estimation of so many admirals of that day. The *British Fighting Instructions*, Article XIX, reënforced by the sentence of Admiral Mathews,[17] had apparently established the belief that to disorder the line for the purpose of beating the

hauling up too soon from the lasking (diagonal) course in order to engage. The results in either case, however, would be similar.

[16] "Bearing up" and "bearing down," although seemingly opposite, frequently meant the same thing; for example, a fleet close hauled to windward of another and wishing to bring it to action, would first "bear up" (sail large or before the wind) and is then "bearing down" upon the fleet to leeward.

[17] Mathews was court-martialled and disgraced for breaking his line to attack in the action off Toulon in 1743.

enemy was conduct unbecoming an officer and a gentleman. This idea had hung like a millstone around the neck of the British Navy for nearly a century until able and intelligent men, such as Hood and Rodney, sounded the tocsin of revolt which after this battle resulted in the abolition of copy-book methods of fighting.

Hood's criticism of Graves indicates no consciousness of wrong-doing for not bringing the rear into action. He stated:

> Had the center gone to the support of the van, and the signal for the line been hauled down, or the commander-in-chief had set the example of close action, even with the signal for the line flying, the van of the enemy must have been cut to pieces, and the rear division of the British fleet would have been opposed to those ships the center division fired at, and at the proper distance for engaging, or the Rear Admiral who commanded it would have a great deal to answer for.

The log of the *London* refutes the statement that the signal for the line was kept continuously flying.

Captain White, then a young officer on one of the ships of Hood's division, says on this point:

> Will that log *(London's)* or the log of any other individual ship in the fleet confirm the statement thus published to the world? (By friends of Graves). If they do, I shall be induced to fancy that what I that day saw and heard was a mere chimera of the brain, and, that what I believed to be the signal for the line, was not a union jack, but an *ignis fatuus* conjured up to mock me.

The trouble was caused entirely by a misunderstanding as to the proper course of action to take while the signals for the "line" and "close action" were displayed at the same time. Graves undoubtedly meant to attack at close range but he also wanted the individual ships to keep their places. The *Fighting Instructions* and the *Signal Book* were too antiquated to rescue him from the dilemma. It was a physical impossibility for his juniors to obey literally, incompatible signals. The next day Graves endeavored to clear up the point by a memorandum to the effect that the signal for battle should not be rendered ineffective by strict adherence to the line signal. But this explanation of what the signals meant to his own mind came too late. The irretrievable damage was done.

Chance seems to have given the English the most opportune moment for the battle when the opposing force was the least prepared. It was not without reason that Admiral Graves afterwards wrote "the fifth of September was, I confess, a moment of ambition to me." And well it might have been!

It was Graves's intention to renew the battle the next day, but daylight disclosed his ships too badly damaged to keep the line, and, although practically calm, he held his wind while attempting repairs. On the seventh at noon, the wind changed to favor the French, and de Grasse approached and meneuvered during the night to preserve the wind, but at daybreak on the eighth the wind again favored Graves which enabled his fleet to look to windward of the French, who were then in bow and quarter line on the starboard tack, but de Grasse perceiving it, tacked his fleet together, forming a line approaching the enemy, who was upon contrary tack in line. De Grasse signalled for his van to pass to windward of the enemy who was then attempting to form line of battle by tacking in succession to come on the same tack and parallel to the French. It appears that Graves then realized how dangerous such a movement was, and to continue it would expose him to attack before his line could be half formed. Some ships had already tacked when he wore fleet together and formed line astern of his rear guard by which he gave up the weather gage.

In the nights of the eighth and ninth another variation of the wind gave the English the weather gage, but during the night of the ninth, by superior sail power, the French again regained it and under a press of sail stood for the Capes.

On the tenth Hood was much alarmed over the situation, so much so that he took upon himself the rather awkward and unpleasant task of sending advice to his superior officer. By his repeating frigate he sent the following letter to Graves:

> Barfleur, at Sea, September 10, 1781.
>
> Sir: I flatter myself you will forgive the liberty I take in asking whether you have any knowledge where the French fleet is, as we can see nothing of it from the *Barfleur*.
>
> By the press of sail de Grasse carried yesterday (and he must even have done the same the preceding night, judging from where he was at daylight), I am inclined to think his aim is the Chesapeake, in order to be strengthened by the ships there, either by adding them to his present force, or by exchanging his disabled ships for them. Admitting that to be his plan, will he not cut off the frigates you have sent to reconnoiter, as well as the ships you expect from New

York? And if he should enter the bay, which is by no means improbable, will he not succeed in giving most effectual succour to the rebels?

I trust you will pardon the offer of my humble sentiments, as they are occasioned by what passed between us, when I had the honour of attending your summons on board the *London,* on the eighth, in the evening.

I am, Sir,
Your most obedient, humble Servant,
(Signed) SAM. HOOD.

REAR-ADMIRAL GRAVES, &c., &c., &c.

Graves sent for Hood and Drake, and it was decided to make for the Capes. But it was now too late, de Grasse was almost inside.

The maneuvers after the first day's action are interesting only to complete the record and to show how skillfully de Grasse decoyed Graves away from the Capes in order that de Barras might enter unmolested. Graves was unaware of this deception, assuming all the time from the size of the French fleet that de Barras had already joined.

It was Hood's opinion that Graves should have gone into the Chesapeake immediately after the engagement of the fifth for the purpose of seizing the anchorage left by de Grasse and establishing touch with Cornwallis, a feat similar to his own a few months later at Basseterre of St. Kitts which establishes a presumption that it might have been done. But the questions can be fairly asked: Was not the British fleet badly disabled? What would de Grasse have been doing all this time, would he not have attacked again? If Graves had gotten in, would he have found material for refitting his ships and in this event would he not have been trapped and annihilated by the combined fleets of de Barras and de Grasse? There can hardly be a doubt that Graves thought this move impracticable.

We know that during these later maneuvers Graves was considerably worried over the condition of his crippled and numerically inferior fleet, and well he may have been had de Grasse decided to attack. On the eighth a half a gale was blowing and the *Terrible* made signals of distress and soon after dark her main topmast went by the board and the foremast was expected to follow at any minute. This misfortune in sight of a superior enemy, who kept his fleet extended and in motion, put him in a situation not to be envied and filled his mind with anxiety. While in this predicament, the *Pegasus* joined from New York with the intelligence that six victuallers and a storeship under convoy for New York had fallen in with a French fleet and been captured, and a delayed letter from Rodney telling of the sailing of de Grasse and Hood from the West Indies, and other belated information.

The frigates *Richmond* and *Iris* were despatched to the Chesapeake with despatches from Clinton to Cornwallis, and to reconnoiter. They played the French a shabby trick by cutting adrift all their anchor buoys in Lynnhaven Roads, but it is likely that the anchors were nearly all recovered later. They paid for this unkind act by being cut off and captured by the incoming French fleet.

De Grasse arrived in the Chesapeake on the eleventh and was pleased to find his strategy justified as de Barras had entered the day before. The combined fleets, comprising thirty-six ships of the line, united under de Grasse[18] and anchored at Lynnhaven.

On the tenth, when the French fleet was out of sight of the *London,* the frigate *Medea* was sent to reconnoiter. She returned and reported the French at anchor inside. Graves asked Hood for his opinion as to the next move to be made under the circumstances. Hood's reply ill concealed his chagrin, stating it was nothing more than he expected from the press of sail the French carried on the night of the eighth and on the ninth which made it very clear to him what de Grasse's intentions were. Sir Samuel "would be very glad to send an opinion but he really knows not what to say in the truly lamentable state we have brought ourselves."

A council of war was held on the *London* on September 13, and it was resolved to proceed to New York and put the ships in the best state for service. With the return of the English to New York, the mastery of the sea was definitely surrendered to the French who were now free to lend full coöperation to the forces on land and bring the campaign to a speedy close.

During this interval the American and French armies had reached the mouth of the Elk River at the head of Chesapeake Bay. The van of these forces, under Count d' Austine, embarked on American vessels and reached Williamsburg (twelve miles

[18] De Barras, although senior, magnanimously waived his rank to serve under his junior.

from Yorktown) by way of the James River on the nineteenth; the remainder, under Marquis Viomesnil, marched to Baltimore and Annapolis and embarked on frigates and transports sent by de Grasse under command of Marquis de Villebrune. On the twenty-fourth all united at Williamsburg. Washington and Rochambeau had been there from the thirteenth, having come overland with their aides de camp. On the eighteenth they came on board the *Ville de Paris* to concert their plans.

De Grasse then left the anchorage at Lynnhaven, where ships were not safe in northerly weather, and anchored in line at the mouth of the York with springs on his cables ready to repel the British if, when reënforced by the expected arrival of Admiral Digby from England, they should attempt to relieve Cornwallis. This position also enabled him to quicken the siege by facilitating the transport of munitions and stores. Three vessels were also sent to anchor with springs on their cables at the mouth of the James. On the thirtieth, at the request of Washington, de Grasse detached 800 marines from his ships to reënforce Marquis de Choisy who was blockading Gloucester with the Duke de Langun's Legion of 2,000 Americans.

Yorktown was invested on the twenty-ninth, trenches opened on October 6 and 7, and on the seventeenth Cornwallis asked for a stipulation. The articles of capitulation were signed and the formal surrender of 7,247 troops and 2,000 sailors took place on the nineteenth.

Admiral Digby arrived in New York from England with the *Prince George* (90), *Canada* (74), and the *Lion* (64), reënforced by the *Torbey* (74) and the *Prince William* (64)—Rodney's ships from Jamaica—and on the day of the surrender he left with twenty-five ships of the line and Clinton with 7,149 troops on transports intending to relieve Cornwallis.[19] They arrived at the Capes on the twenty-fourth and were met by scouting vessels with the news of the surrender. Seeing de Grasse at anchor in a crescent-shaped formation with thirty-six sail of the line extending from York Spit to the Horseshoe, he dared not enter, and after cruising offshore for several days with the vain hope of enticing the French out, Graves left for New York on the twenty-ninth, arriving November 2.

[19] Graves still retained command.

No further attempt to retrieve the situation was made. It was realized that a decision had been reached. De Grasse, anxious to fulfill his engagements in the West Indies, embarked the troops of St. Simon and sailed from American shores on November 5.

It matters not to this campaign that de Grasse was met and defeated, and himself in the *Ville de Paris* captured by Rodney soon afterwards at Dominica; his fame will always remain secure in America. This great combined movement of military and naval forces was carried out with truly remarkable precision—notwithstanding slow communications—and it is to de Grasse and sea power as he handled it that America owes unending gratitude. The successful conclusion could not have been had without control of the sea, which thanks to poor distribution of ships and poorer tactics against the ability of de Grasse rested safely for America's cause.

Naval warfare in the War for American Independence has not been studied among us as fully as its intrinsic value merits, nor is our debt to the influence of sea power generally recognized. Had the educators of America sensed this source of national strength and safety, and duly appreciated its bearing upon the birth and life of the nation, and had they seen to it that the lesson was taught in the schools, it is but reasonable to suppose that crafty diplomats and scheming politicians would have been unable to persuade the United States Senate to lend sanction to the Limitation of Armament Treaty at Washington, 1922, by which our country was deprived of its right to fortify and develop its Far Eastern bases in locations that control its possessions (as all other nations are allowed to do), and which permits the Open Door to be closed. Still less would it have consented to sacrifice the nation's security and posterity's birthright to its fair share of the world's trade by scrapping three hundred and thirty millions of dollars' worth of modern line of battleships, which money had actually been spent, while its nearest competitor scrapped a few dollars' worth of blueprints.

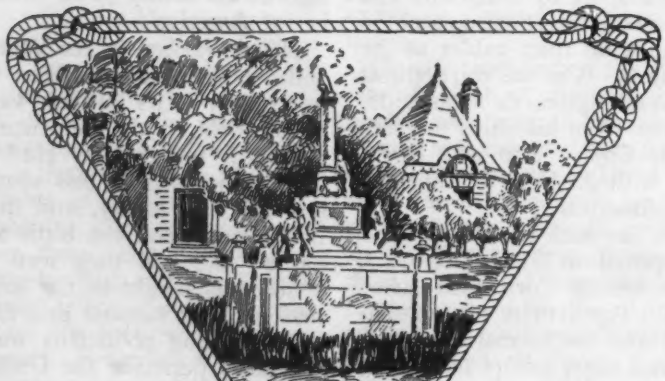
Is this blunder going to occur again at Geneva or at the expiration of the Washington Treaty in 1932, are the people of the United States going to sanction further weakening of its Navy already reduced

appreciably below even its treaty strength, or is too late to learn the lesson which George Washington sought to teach us when he wrote:

In an open operation and under all circumstances, a decisive naval superiority is to be considered as a fundamental principle, and the basis upon which every hope of success must ultimately depend.

America *must not* forget!

EDITOR'S NOTE: On pages XXX, XXXI and XXXII are reproductions of famous paintings by the artist, John Ward Dunsmore, who has generously given special permission to the Naval Institute to publish them. These are copyrighted and must not be republished. In the February number of the PROCEEDINGS the remainder of his paintings, some thirty-seven, will be reproduced.



Birds *of* Ebony

"And the 'spotlight' o'er him streaming, throws his shadow on the floor."

By Rear Admiral George R. Clark, *U.S.N. (Retired)*

IF THERE is anything the matter with the Navy, in these days when the favorite indoor sport is to assail the armed forces, and the modern "birds of ebony," with a persistency worthy of Poe's Raven, continue their rapping at the Navy's door, it is a tendency on the part of not a few to drift into a lack of reverence for the old-time qualities of duty, loyalty and discipline. Following the trend of the times, when many who are unable to build shacks are tearing down cathedrals, numbers without and some within the services, for reasons best known to themselves, are engaged in hurling epithets, attacking policies, ridiculing methods, and generally weakening the lawful authority of and lessening the respect due to their superior officers. These practices are especially dangerous at the present time when the world, seeking a so-called new freedom, is in revolt against restraint of every kind, and ready to listen to any promise of rainbow gold. "Duty," said Lee, "is the sublimest word in the English language." That sentiment must have been uttered soon after the defeat of the Southern Army at Gettysburg, of which, according to Bruce, the most distressing feature, after all, was that it revealed Lee's entire lack of a lieutenant upon whom he could rely for the prompt and skillful execution of his plans. Grouchy at Waterloo, Mann at Corsica, Landais off Flamborough Head, Elliott on Lake Erie, Custer at Little Big Horn, Hooker in Virginia—all these would have given better service if, while subordinating selfish ambition and personal opinion, they had been animated and governed by Mahan's principle of displaying "energy in forwarding the *general object* to which the officer's particular command is contributing."

"I much fear," said Lincoln in his letter to General Hooker, "that the spirit you have aided to infuse into the army, of criticising their commander and withholding confidence from him, will now turn upon you. . . . . Neither you nor Napoleon, if he were alive again, could get any good out of an army while such a spirit prevails in it." Elbert Hubbard, referring to the letters, states that "Hooker had harshly and unjustly criticised Lincoln, his commander-in-chief, and had embarrassed Burnside, his ranking officer. Lincoln told Hooker the truth in a way that did not humiliate, but which certainly prevented the attack of cerebral elephantiasis to which Hooker was liable."

"If you must vilify, condemn and eternally disparage," says Hubbard, "why, resign your position, and when you are outside, damn to your heart's content. But, I pray you, so long as you are a part of an institution do not condemn it. Get out or get in line."

Hooker failed to do his work, "and was superseded by a Silent Man who criticised no one, railed at nobody, not even the enemy."

History shows that a great majority of the defeats were due to failure on the part of some one to measure up to the standard that forbids self-glorification, and demands devotion and loyalty to the service, singleness of purpose, forgetfulness of self. These qualities are sorely needed today in order that the wheels of government may run smoothly and our leaders, on whom rests the responsibility, may do the work given them to do.

These officials may be trusted to uphold the traditions of a service rich in its history of victories and achievements, a record unmarred by a single failure to respond promptly and successfully when danger threatened or duty called. The policy, organization, system, training, call it what you will, that has resulted in such a record surely cannot be wholly bad, and deserves support rather than censure. The policy

of conservatism, a slowness in accepting new devices and ideas without trial and investigation, so thoroughly disliked and vigorously combated in some quarters, should be adhered to, not with apologies but with pride, as a factor that has had no small part in the making of a splendid record.

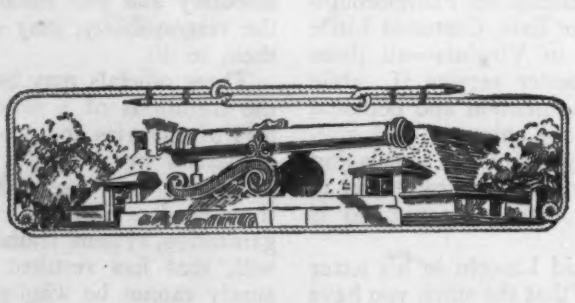
General Bragg, in his speech nominating Mr. Cleveland for the presidency, said that he loved him for the enemies he had made. By that same token the country should love the armed forces, for their most bitter and persistent enemies are found among those violently opposed to law and order in all their forms, and constituted authority wherever found. For that reason, if for no other, all, especially wearers of the uniform, should hesitate to take any action that plays into the hands of these enemies now so active in parlor and street. Readers between the lines have not forgotten that not long ago, on the occasion of an industrial upheaval, the fate of a great empire rested largely upon the steadfastness and discipline of its army and navy. Fortunately for the empire involved and the welfare of the whole human family, these forces, despite radical attempts to undermine their allegiance, stood fast and the danger was averted. This incident was but another illustration of the truth of Pinckney's assertion that all governments rest upon force. It should be remembered that the Constitution defines treason (a word quite freely used of late) as consisting, among other things, of "adhering to our enemies, giving them aid and comfort." No surer way can be found to render that aid than madly to attack officials now faithfully and efficiently serving in positions of trust and responsibility. "I believe in free speech," said Marlborough, "but not on board a man-o'-war."

No sudden and radical departure from long established and well tried custom, whatever may be the motive, which, by reason of the methods employed, is made at the cost of discipline and morale is worth the cost. An added tower to a cathedral may decorate and even benefit, but not if, through faulty methods of construction, it weakens or destroys the foundation stones upon which the whole structure rests.

The fault is plain and the remedy simple. Let us swing back to the governing principles of the early days when the cheerful "Aye, aye, sir," and the prompt action responding to every order from the bridge testified to the fine understanding and feeling of trust and respect prevailing among all rates and ranks. "Choose yourself, my Lord," said Nelson when offered the Navy list from which to choose officers for his fleet. "The same spirit actuates the whole profession. You cannot choose wrong." Herein the great sea commander put spirit of the service above all else, a trust soon afterward justified by his victory at Trafalgar.

Let us keep in mind St. Vincent's maxim, "The whole of discipline is contained in the one word 'obedience,'" that word to mean not only a carrying out of orders but loyalty to the spirit of authority, ready and hearty compliance with the wishes of the senior. Napoleon believed that the soul of an army is an honest attachment of all its parts to their leader. West Point's motto is "Duty, Honor, Country." Such beacons should help us keep step in finding our way to the old road that leads to full coöperation and faithful service.

And the Silent Man who ruled his own spirit took the cities. He did the work that no man ever can do unless he gives absolute loyalty, perfect confidence and untiring devotion.



The Nicaraguan Canal

By R. Z. KIRKPATRICK, *Major, Engineer Reserve, U. S. Army, Chief of Surveys, Panama Canal*

NO DOUBT the morning Egyptian papyri were once full of the doings of the young Crœsus and Pharaoh, King Tut, who—like the Prince of Wales now—was the best headliner of the day. But one day the boy, of whom so much was expected, died, was given a most lavish interment, other Pharaohs succeeded and were succeeded; the young man was forgotten, except by a few musty old Egyptologists. But a few years ago, after a fearful lapse of time, he was rediscovered. More work for the linotypers then ensued than was ever known to the scribes skilled in the ancient hieroglyphics.

With a very considerable foreshortening of the time element there are points of similarity in the story above and the history of the Nicaraguan canal project. For some time before and certainly very much during the life of its principal champion, the venerable Senator Morgan, the Nicaraguan Canal had much front page space—only to go into oblivion through the fickleness of chance, politics and diplomacy. Then came the Treaty of 1912-13, ratified between Nicaragua and the United States a few years afterward, giving the United States the sole right to build a Nicaragua canal, for which right $3,000,000 was paid. Directly, and every few months since, the old controversy, the Nicaraguan *vs.* the Panama route came to the fore with all the old misconceptions and often several new ones.

Some strange assertions pass as true statements of fact. A while ago in Managua, the capital city of Nicaragua, the author was confidentially told by a resident American business man that "The United States is already taking up its option, they have three dredges from the Panama canal now working at our Atlantic entrance." One sees learned articles in both American and foreign magazines occasionally in which it appears that the author is under the impression that the more northerly canal is to be a sea level proposition. Long periods of reasoning and argument as to the military advantages of a duplicate canal in war time get space in the popular press, mostly postulated on the idea that the new canal is to be an open strait from ocean to ocean. The following description, largely compiled from the reports of various early investigations made in Nicaragua may aid in clearing up some of these misunderstandings.

Brief history of the early investigations.—A sea-level canal, based on an investigation in the field, has never been seriously proposed. The first serious reconnaissance for a canal route in Nicaragua was made by an American, John Baily, in 1826. His report, reviewed by both American and English commissions, covered very nearly the same territory afterward retraced by many others. Colonel Childs in 1852, working for Commodore Vanderbilt of New York Central Railroad fame, made the first real engineering investigation. Vanderbilt already had much information on Nicaragua, having had for some time a line of steamers running up and down the San Juan River and across Lake Nicaragua. He had a stage route from there to the Pacific Ocean; this combination trans-Nicaraguan route was connected with ocean steamers from New York to San Juan del Norte (then called Greytown) on the Atlantic, and San Juan del Sur to San Francisco on the Pacific. He did a good business just then in the "On to California movement" of the early '50's.

The construction of the Panama railroad and the activities of the American filibuster, Walker, in Nicaragua, put Vanderbilt out of business, and Colonel Child's estimate was for more money than could be raised. The Lull-Menocal studies of 1872, which substantially checked Colonel Childs, planned

for several locks on each side of the big lake. It was the same Menocal that in 1887, at the head of the Maritime Canal Company, spent several millions of dollars, actually working on a canal. They made unloading wharves, a 950-foot jetty, cleared forty-five miles of right-of-way, built fifteen miles of railroad, constructed shops, storehouses, a hospital, and had two dredges digging on the sea-level portion of the proposed canal. Most of that material is rusting or rotting in the dank jungle now. One of Menocal's earliest assistants was Lieutenant Peary, U.S.N., afterwards the discoverer of the North Pole. From the time of Childs all these engineers were figuring on a *lock level* canal.

The Nicaraguan Commission, later called the Isthmian Canal Commission, made two reports which were very complete studies. These reports were published in 1899 and 1901; the second report included the Panama route and made a comparison of the two routes.

To date no further studies have been made but the work has been so well covered that, if some day a canal be built there, it is likely that there will be only a few changes such as slight shifting of alignment, wider channels and deeper cuts, in amounts sufficient to take care of the longer and wider hulls now current. The Walker Commissions (both the Nicaraguan and the first Isthmian Canal Commission headed by Admiral Walker) recommended a canal 183 miles long (it would have taken from eighteen to thirty-six hours for a complete transit).

The canal alignment as recommended.—Beginning on the Atlantic side, several miles north of one of the mouths of the San Juan River, San Juan del Norte is the eastern terminus. Proceeding westerly the line crosses several ridges of hills, each at a higher elevation. In each one of four of these ridges is a lock, the canal level becoming elevation 115. A short distance west of the junction of the San Carlos River (a large river flowing northward in Costa Rica) with the San Juan, the canal coincides (with the exception of some cutoffs at riverbends) with a canalized San Juan River. The lower river is completely divorced from the upper river and the canal by the building of the "Gatun dam of the Nicaraguan project," known as the Conchuda concrete dam. That is, the lower San Juan is only the drainage outlet for the Costa Rican streams from the south. Proceeding westerly the canalized San Juan is fifty-five miles long to Fort San Carlos, the entrance of the canal channel to Lake Nicaragua; and, as the lake is relatively a shallow body of water (although it is at an elevation of 115 feet above the sea), a very considerable quantity of dredging is necessary in the seventy-one miles of lake channel to the west side of the lake. Then come nine miles more of cut to reach the site of lock No. 5; the succeeding eight miles are largely in the river valleys of the Lajas and Grande Rivers (the latter on the Pacific slope) and they contain three more locks, giving a descent to sea level and the Pacific port of Brito.

Summarizing, there are about 10.5 miles of sea level channel; eight locks, four to each side of the canal; thirty-eight miles of canal at intermediate levels between sea level and lake level, seven of which are on the Pacific side; 125.5 miles of high level at elevation 115, composed of 54.5 miles of canalized San Juan River and 70.5 miles of Lake Nicaragua dredged channel.

Some facts about Nicaragua.—Nicaragua is about the area of Alabama or North Carolina, with the population of San Francisco or Pittsburgh, i.e., 49,200 square miles and 600,000 people. Lake Nicaragua (which is 110 miles long and thirty-nine to forty miles wide) is the largest lake between Lake Erie and Lake Titicaca in Bolivia; it has but about twenty-five feet lower elevation than the 490-square-mile-interconnecting-Lake Managua, the Tipitapa River being the connection. Topographically the western or Pacific slope is but ten to thirty miles wide although it contains about three-fourths of the population. The rainfall on the Atlantic side at Bluefields and San Juan del Norte is nearly continuous in the rainy season, being about 250 inches, nearly twice that of the Atlantic terminus of the Panama Canal.

Ship lanes by the two routes.—The table below indicates some of the comparative distances between ports by the Nicaraguan and Panama routes. The northerly route is the shortest for vessels in American coastwise trade. This advantage is partly discounted, however, by the longer time taken to transit the longer canal, in some cases the savings are more apparent than real.

Some comparisons between the Nicaraguan and Panama Routes:

From	To	Via Nicaragua	Via Panama	Savings	
				Via Nicaragua	Via Panama
San Francisco	New York	4,920	5,260	340	
	New Orleans	4,120	4,700	580	
	Liverpool	7,650	7,840	190	
Iquique	New York	9,460	9,700	240	
	New Orleans	8,650	9,120	470	
	Liverpool	12,190	12,270	80	
Yokohama	New York	4,390	4,000		390
	New Orleans	3,590	3,420		170
	Liverpool	7,125	6,580		545

PANAMA

Two fair harbors existed in nature.

Panama railroad already built; had to be partly relocated.

Much actual work had been accomplished by the French.

Average rainfall, seventy to 130 inches.

Region wholly in one country with favorable treaty.

Distance lighted and maintained, about forty-seven miles.

No active volcanos within 200 miles; no serious earthquakes on record.

Cost, about $375,000,000; about one-half billion for everything.

Transit time, six to ten hours.

Summit level eighty to eighty-seven feet.

Double locks, six in all, but located in three towns.

Curvature gentle, sharpest at La Pita Bend.

No storms and relatively little river currents.

Twenty-five miles of deep water in Gatun Lake.

Panama now sanitated.

Coast fortifications easily made on outlying points or islands.

U. S. Coastwise traffic is from 300 to 600 miles longer.

NICARAGUA

Two harbors must be created; San Juan del Norte presents unusual difficulties. 120 miles of railroad (the whole way less Lake Nicaragua) must be built.

Much actual data lacking; no actual construction work now done. Rainfall varies between sixty and 250 inches.

Part of route along the border of Costa Rica, with possible friction. About 183 miles to be lighted and maintained.

Several active volcanos near route; Ometepe Volcano, near lock site, lately active; buildings show earthquake damages.

Cost, conjectural; originally estimated at about one-third more than Panama.

Transit time, eighteen to thirty-six hours.

Summit level, 110 to 115 feet.

Double locks, eight in all, located in eight different towns.

Curvature sharp. Canalized San Juan has many bends.

Heavy winds at east entrance and Lake Nicaragua.

Deep water through Lake Nicaragua about forty-five miles.

Practically no sanitation.

Fortification difficult, particularly on eastern coast.

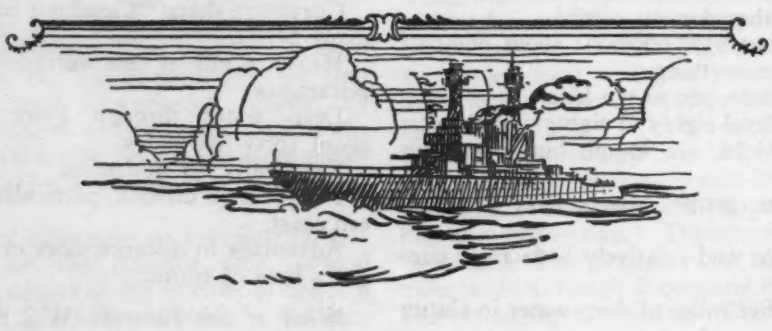
Advantage in distance more or less lost in extra time of transit.

What of the future?—Will the Nicaraguan canal ever be of more than historic value? Who can say? Surely not the writer. But there is this to be considered. When fully developed to its ultimate capacity for passing ships (by a change in the method of drawing water at Pedro Miguel locks, building another flight of locks at Pedro Miguel, Miraflores and Gatun, and construction of the Alhajuela storage dam on the upper Chagres River), with due consideration to the water necessary for the locks, there can be forty-eight complete transits a day at Panama; this can easily represent sixty ships a day, by occasional tandem lockages; that

is, by locking up or down two short ships in the same chamber at the same time. At present the Panama Canal is operating at less than fifteen ships a day, or about one-fourth her ultimate capacity.

He who can guess when the other three-fourths of the ships will come should answer the question above. The coastwise trade will not supply them for a long time yet; maybe some of them will come from the development of the western coast of South America. It would appear that most of them must originate from ports in Europe—but there does not appear to be much prospect of its pushing us into the new construction just now; at least, until the reconstruction from the war reaches a much further advanced stage than at present.

Surely it must be a considerable time before the Panama Canal is to be outgrown. Perhaps it will be military or naval reasons that will bring it all about rather than business ones. But there is an axiom in war about dividing one's forces in the face of an enemy; there would be two canals to defend. It was Carnegie that advised his partners to "Put your eggs all in one basket, but eternally watch that basket." And he was a pretty wise Scot; maybe that's as good tactics for defense as for business.



Notes *on the* Early Development *of the* Designs *in* Marine Signal Flags

By HOWARD M. CHAPIN

THE International Signal Code flag designs did not spring suddenly from the head of some super-mariner, but were the result of developments over some several hundred years. Curiously enough, the designs finally adopted, and at present in use, are not the simplest that could be devised. In the construction of a code, or series of signal flags, certain factors have to be considered. The shapes of the flags are restricted by experience and custom to three main types, and both the designs on the flags and the colors used are restricted to those easily distinguishable. Accepting these restrictions as natural and necessary, it is still, at first, surprising to find that the designs in use are not the simplest for the purpose. This is due to various factors that have influenced the development of code flags.

One would naturally assume that the earliest signal flags would be rectangular flags of plain colors, but this is not the case. It doubtless would have been the case if the signal codes had been designed on land, but the early signal codes were more or less emergency measures, hurriedly devised at sea where it was necessary to utilize what was readily at hand. At first the national flags of the ships were used, and later the flags of foreign countries, for both merchant vessels and war vessels have for centuries carried the flags of foreign countries, for use in emergencies, as a means of deception; sometimes for their own protection and sometimes for less creditable ends. This use of foreign flags, particularly in emergency codes adopted at sea, persisted long after official code flags had been adopted by the British Navy, and was in vogue both in the British Navy and in the American Navy during the American Revolution.

As naval maneuvers became more extensive and complex, signals and information began to be transmitted by means of flags. At first, the "codes" were very simple indeed, and contained only a few easily remembered signals.

The *Black Book of the Admiralty*, dating from about 1338, lists two English naval signals: a "banner of council" high in the middle of the mast, as the signal for a council, and a banner aloft as a warning that the enemy has been sighted. The "banner of council" was probably the royal standard, for its use in this signal persisted for centuries in English naval usage. In 1369 a special "gonfanon of council" was made, but it carried the royal arms as its central device, and might on that account be considered a variant or amplification of the royal standard, and in 1423 the banner of council contained the royal arms and the cross of St. George. As time went on, a differentiation was made between the inner council or council of war and the general council of captains. The *royal standard* was reserved for the council of war as early as 1596, at which time the *flag of St. George* (red cross on a white field) was used for the general council. The royal standard was used in these signals until about 1790, and is the earliest English naval signal flag. For a short time it was replaced as "the flag of council" by the "British" (or Union) flag in 1628. The design of the banner of warning, mentioned in the Black Book of 1338, unfortunately is not given.

Sir Walter Raleigh's orders of 1617 contain these same two historic signals: the ensign in the maintop, if you discover many great ships, that is, a possible enemy, and a flag in the main shrouds, if a council is to be held. The former signal is one of the earliest recorded instances of the use of the ensign as a signal flag, and in the latter signal the design of the flag is not given. W. G. Perrin, Esq., the authority on the history

of the British flag, suggests that any flag may have been used in this signal, but from the fact that the *royal standard* was generally thus employed its use in this case might follow naturally as naval tradition. It will be noted that in both cases the position of display was part of the signal, and for almost two centuries the position of display, as well as the design of the flag, continued to be an essential part of a signal. Nowadays the signal flags carry the entire message, and are displayed at the point of greatest visibility, although the importance of the position of display is still retained in regard to certain one-flag hoists. Throughout the greater part of the seventeenth and eighteenth centuries, guns and sails were used in connection with many of the flag signals.

In the gradual development of England's naval signals, we find the white pennant used as a signal flag as early as 1596. It was, however, part of the English naval vessel's equipment at this time, and was usually hung from the mizzen yards. Lord Wimbledon's orders of 1625 contained three signal flags: the *ensign* in the maintop, with the same significance as in Raleigh's orders; the arms of England (i.e., the *royal standard*), in the mizzen shrouds, as the signal for a council of war, and the St. George (i.e., *St. George's flag*) in the mizzen shrouds, as the signal for a general council.

Lord Wimbledon's orders divide the fleet into three squadrons, each to be distinguished by: red flags and red pennants at the main topmast-head of the admiral's squadron; blue flags and blue pennants at the fore topmast-head of the vice-admiral's squadron, and white flags and white pennants at the mizzen topmast head of the rear admiral's squadron.

Sir Julian Corbett, the authority on naval fighting instructions, states that this is the first known occasion of red, white, and blue flags being used to distinguish squadrons, although the idea was apparently suggested in Elizabeth's time.

The red flag, having been introduced as a designating flag, became a part of the ship's equipment, so that it is not surprising to find it used as a signal flag in the Commonwealth instructions issued about 1650. A pennant was also used in signaling at this time. The "pennant" in use at this period was the so-called "Broad Pennant," a swallow-tailed flag or burgee, considerably larger than the present day burgee of the International code.

Mr. Perrin calls attention to the fact that the red flag, as a signal for battle, was not of English origin, but was one of the unwritten customs of the sea, and that its use for this purpose probably was derived from the "scarlet cloak" signal, which the Greeks are said to have borrowed from the Phœnicians.

In the revised instructions of 1653, the weft makes its appearance in English signaling, one of the signals being "striking the general's ensign and making a weft." A weft or wheft is any flag or ensign stopped together at the head and middle position, slightly rolled up lengthwise. The weft of the jack or ensign signified "distress." This signal, "the weft of the ensign on the ensign staff," continued in subsequent codes as the distress signal, and is so given by Greenwood, and was so used until 1783. Jonathan Greenwood's illustrated signal book was printed about 1714, and the signals shown therein were in use as late as 1783. If the few signals in use at this time cannot really be called a code, they at least constitute an embryo code that had started in its slow development years earlier.

Several new signals appear in the 1653 code: the pennant on the mizzen yard arm or ensign staff for an injury to the ship, as a leak, a signal that was changed in subsequent codes, and the red flag at the spritsail, topmast shrouds, forestay, or maintopmast, signifying to gain the wind of the enemy, which in the revision of 1654 was to be flown at the foretopmast stay and so appears in Greenwood with the same meaning.

The blue flag and the white flag both make their appearance in the signals of 1653, and in 1654 the jack appears as a signal flag. Corbett tells us that the earliest mention of the jack, in fact, the first known use of the word jack, signifying a flag, was in 1633 in an order of Sir John Pennington, in which he refers to the "jack at your boultsprit [bowsprit] end," and to the pennant; as if the jack and the pennant were the then recognized insignia of naval vessels. As Boteler, writing about 1625 in regard to flags, makes no mention of the jack, it seems likely that the term may have origi-

nated between 1625 and 1633. "Jack" probably was used in its common diminutive sense, and "jack-flag" probably meant merely a small flag, such as is flown at the bow. Some claim its derivation from King James I, who signed his name "Jacques," and who was the first to use the union flag. McCandless states that the St. George flag was carried as a jack during the attack on the Spanish armada.

Perrin calls attention to the fact that the white flag was adopted at sea as a flag of truce about the end of the fifteenth century, and that it is said that the Spanish flag of battle in the West Indies was blue.

The union flag at the foretopmast-head for the van of the fleet to tack, and the red and white striped flag at the foretopmast-head for the admiral of the white to chase, continued in use for many years.

Apparently the flag striped red and white is the first flag to be designed and used as a signal flag by the English, as all the flags previously used as signals were actually part of the ship's equipment, and already in use as distinguishing or national flags.

The instructions of 1673 specify the "red ensign" as a signal flag, doubtless merely a codification of previous usage, and add the blue ensign, the Dutch ensign (red, white and blue horizontal stripes), and a flag striped diagonally red and yellow, which certainly marks a new departure in the designs of signal flags. Some editions of these instructions, perhaps additional instructions dating from between 1673 and 1689, mention: a flag striped horizontally red and white, a flag striped diagonally red and white, a white flag with a diagonal red cross (white flag with red saltire), and a flag striped diagonally yellow and white, which is the "fireship" flag, being used primarily in signals relating to fireships.

The extensive code of 1691, known as Admiral Russell's code, but possibly devised by Lord Torrington, was based on the instructions of 1673, and utilized the following additional flags as signals: the yellow flag, the red pennant (burgee), the white pennant (burgee), the blue pennant (burgee), the flag striped horizontally yellow and white, the Genoese ensign (the old St. George's flag), and the weft in jack or ensign.

For convenience we are using the term "flag" in this list as equivalent to a rectangular flag. The word pennant is used in its contemporary sense, though it was really two-tailed, and would today be called a burgee, though longer than those of the international code. The flag striped red and white is later shown in Greenwood with a variation of from five to eleven stripes. The flag striped red, white and blue is shown in Greenwood with six stripes, and may well have been the Dutch flag known as the "Double Prince." The Genoese flag is white with a red cross, similar to, if not identical with, the St. George flag of England of earlier days.

Russell's code was modified and enlarged by Sir George Rooke in 1703 in the so-called "Permanent Instructions," which continued in use for over ninety years. These fighting instructions of 1703, which have been reprinted in Volume XXIX of the Navy Record Society's Publications, together with the sailing instructions of 1703, which have not been reprinted, serve as the basis for Greenwood's book.

Sir George Rooke's additional instructions of 1703 include a red and white flag, not striped, but divided horizontally, the upper half red.

About forty-five of the Russell-Rooke signals are reproduced in Greenwood, but in addition a number of new signals appear. The new signal flags are: the blue and white flag (divided horizontally), the white cross on red flag, and the red cross on blue flag.

It will be remembered that the royal standard had been used as a signal in earlier codes, and it appears in Greenwood with similar significance.

The yellow and white flag with diagonal stripes varies in the illustrations from six to twelve yellow stripes and from seven to thirteen white stripes, sometimes with the yellow and sometimes with the white predominating, and occasionally with an equal number of stripes. All of these variations are doubtless merely the personal error in reproducing the flags. There was probably only one diagonally striped yellow and white flag and only one red and white striped flag, but for the present the number of stripes on the actual flags must remain a mystery. Flags differing merely in the number of stripes would be so difficult to identify at a distance that they would have been impractical for signaling.

The signals illustrated by Greenwood

continued in use until 1783, but occasional additions were made to the flags used as signals. In the Louisburg expedition of 1745 Commodore Warren used a Dutch ensign as a signal flag, and in 1746 Admiral Lestock's code for communicating with the American colonial naval vessels consisted in the use of three flags; the Union jack, the Dutch jack and the Spanish jack.

A signal book of about 1756 adds five new flags: the checkered blue and yellow flag, a new development in signal designs; the checkered red and white flag; the white and blue striped flag of five horizontal stripes; the blue flag with six white balls, and a blue and white checkered pennant. This marks the introduction of the checker pattern and the ball as designs on signal flags. The ball had previously appeared on the distinguishing flags of 1746.

Perrin notes that shortly after 1756 the white balls of the blue flag disappear, and a white square takes their place. The flag thus becomes the "Blue Peter" or "P" of the International code. The first four of these flags were used by Admiral Boscawen in 1759, but the blue flag is described as "pierced with white." A flag is said to be "pierced" when it has a small square of another color in the center, a design which has been quite popular for signal flags.

It is interesting to note that in the Canadian expedition of 1746, the transports and guard sloops flew flags called "vanes" of special design showing from what districts they hailed. Of course, these flags were designating rather than signal flags. The English transports carried a red vane, the Massachusetts vessels a white vane with a blue ball, and those from Connecticut, Rhode Island and New Hampshire a blue vane with a white ball. The meaning of the word "vane," as applied to flags, varies from time to time. In early nautical works, a vane is described as a piece of bunting extended on a wooden frame, which turns upon a spindle at the masthead, but at this time, 1746, it seems probable that it signified a rectangular flag, for it is so used in a signal book of 1801. In more modern times, the word vane is used as equivalent to fly, as we have already stated. The "vanes" of 1801 were designating flags, as were those of 1746, and are shown as rectangular flags with wavy edges, indicative of the effect of the wind, and hence certainly not mounted on wooden frames.

A manuscript signal book of 1762, which records the additional signals of Admiral Hawke, contains no new designs in signal flags, except in the arrangement of the colors. A red and blue checkered flag, a red flag with a blue cross, a white flag with a blue cross, and a red and white striped pennant appear as new color variations of designs already in use.

The customs, usages, and traditions of the United States Navy go back in reality, though perhaps unconsciously, to colonial days, to colonial privateers, coast-guard vessels and merchantmen. The early maritime development of England is the common heritage of both nations. We have traced the gradual development of the British naval signals down to the outbreak of the War of the American Revolution, when it became necessary for the commanders of the new American Navy to devise new signals for their own use.

The signal code adopted by the United States Navy in the early days of the Revolution is clearly based on the contemporary English naval code, with, of course, necessary variations. For instance, a white flag at the fore topmast-head in the English code signified to leave or give over the chase, while a white pennant at the fore topmast-head was the American signal. In 1776 Hopkins' code utilized the following flags; the red pennant, the white pennant, the white flag, the Dutch flag, the standard, a weft (in ensign, jack and white flag), the broad pennant, the St. George ensign with stripes, and the striped jack. It will be observed that the first six signal flags were in use in the British Navy at this time, and that the three new signal flags were flags evidently carried by the American naval vessels in those days. The French jack and the Continental jack, the latter perhaps identical with the striped jack of 1776, are mentioned as signal flags in 1778.

Commodore Whipple's signal flags of 1779 included: the continental ensign, the red ensign, the white ensign, the Dutch ensign, the continental jack, the Dutch jack, the white jack, and the striped flag. No new flags were incorporated into this code, which is scarcely more than a variant of the earlier American codes, as far as flags are concerned, and all of these American codes are clearly based on the English codes with which the American seamen were already acquainted.

Sometime in the latter part of the eighteenth century the old swallow-tailed burgee-type of pennant of the older signal codes became transformed into the long triangular pennant of modern times. This change may have been due to French influence, but in any case its beginnings can be seen in the early days of the Revolution, for the portrait of Hopkins, which was engraved and published in 1776, shows in the background a ship flying a long triangular red pennant.

In February, 1799, the signal flags in use on the U.S.S. *George Washington* were the Dutch ensign, the Portuguese ensign, the French ensign, the English ensign, the Spanish ensign, the American jack, the American ensign, a white flag and a red and white flag. The latter was probably divided horizontally and had been adopted from the British code. Later in the same year, April, 1799, we find that a more highly developed two-flag code had been prepared for the U.S.S. *Baltimore*. This code, which is reproduced in the September, 1912, issue of the UNITED STATES NAVAL INSTITUTE PROCEEDINGS, utilizes: a red flag, a blue flag, a red and white flag divided horizontally, a blue and white flag divided horizontally, a red pennant, a white pennant, a blue and white pennant, a white and red pennant, a red and white pennant, (each divided vertically), the English jack, and the Dutch jack.

The red and white flag was used inverted in some signals. The pennants are drawn as "long pennants," triangular flags twice as long as the rectangular flags, and the color at the staff end of the pennant extends only about a quarter of the pennant's length, the color division being vertical.

Commodore Morris, when in command of the United States Mediterranean fleet, about 1803, adopted a numerical signal code of eighteen flags, which has served as the basis for the subsequent American codes, the flags of which are illustrated in G. H. Preble's *The Flag of the United States*.

This code, and most of the signal flags, are based in a general way upon the English code of those days, for the English had at that time recently developed and perfected the numerical signal code, which in both of its forms was apparently invented by the French.

Another Route *to the* Pacific

(EDITOR'S NOTE: The following account has been written for the Institute by the Assistant Editor, based on documents kindly furnished by the Naval Historical Foundation. The documents in question were papers entitled "The Valley of the Atrato and the Proposed Inter-Oceanic Ship Canal." See special illustrations, pages XXXIII-XXXVII.)

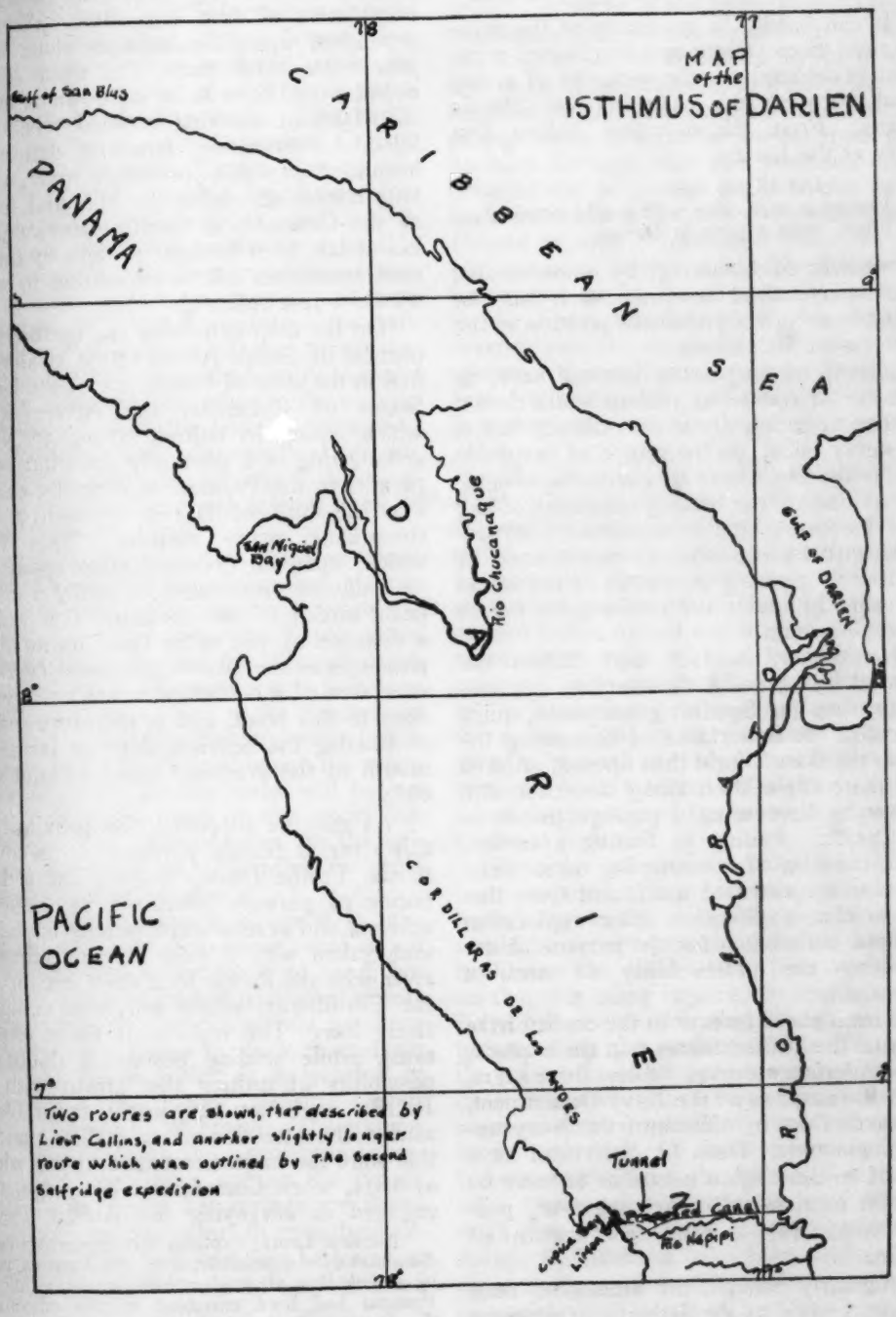
THE recent decision of President Coolidge to order additional surveys of the Nicaraguan Canal route, with a view toward constructing this canal before the limit of the Panama Canal is reached, has again brought the interoceanic canal question to the attention of the world. About the years 1870-1880 the discussion of the practicability of connecting the Atlantic and Pacific oceans by some kind of canal was at its height. Some engineers still believed that such a canal could not be built, while those who did believe in its possibility were of divided opinion as to where it should be constructed. Few people of the present generation realize the important part taken by the Navy in the survey and study of the various routes. It is said that President Grant, being personally interested in the canal project, ordered that a survey be made by the Army engineers. However, a law was found which expressly prohibited the use of the Army outside the United States except when the country was at war. Thus blocked in his attempt to use the Army Engineer Corps, Grant appealed to the Secretary of the Navy, who immediately volunteered the services of the Navy in carrying out the surveys. The difficulties encountered by the first survey expedition under Lieutenant Strain are well illustrated by the fact that this party, although so near the ocean that they could hear the evening gun of their own ship, were forced to resort to cannibalism in order that even a small number of the party might live to cut their way through the almost impenetrable jungle and reach the coast.

Various parties, better equipped and better informed than that under Strain, then examined and surveyed the Nicaragua, Tehuantepec, Panama, San Blas, Caledonia, De Puydt and Atrato-Napipi routes. It is interesting to note that the Tehuantepec route, rather than being a canal, was to be some sort of a marine railway which was to pull the ship out of the water and then conduct it by means of a railroad to the other side of the isthmus. An elaborate system of tipping tables and turn tables was devised to enable the ship to negotiate grades and curves. It is easy to see why this route was one of the first to be declared impracticable.

A fact soon noted by one who reads the reports of these naval surveys is the extreme partiality of each commander for the route surveyed by himself. The minutes of the International Congress, convened in 1879 at Paris for the purpose of discussing the canal question is largely made up of sharp passages at arms between the supporters of the various routes; Admiral Ammen, supporting the Nicaraguan route, and Commander Selfridge, always a strong believer in the Atrato-Napipi route, being particularly active in these verbal battles.

Commander, afterwards Rear Admiral, Selfridge led three expeditions to the isthmus of Darien in search of a practicable route to the Pacific. That he and those with him firmly believed that they had found this gateway is best shown by the following article which was written in 1873 by Lieutenant Frederick Collins, U.S.N.,[1] assistant to Commander Selfridge on his last two expeditions to the isthmus. The accompanying sketches were made by Lieutenant Collins while "on location" in the Darien jungle. The map of the proposed route is taken from the official report of the Selfridge Expedition.

[1] Of Lieutenant Collins, Admiral Leutze says, "Collins was the most popular man in my class, graduating No. 3. He died from the fever he contracted while on these surveys."


MAP of the ISTHMUS OF DARIEN
CARIBBEAN SEA
Gulf of San Blas
PANAMA
San Miguel Bay
Rio Chucanaque
GULF OF DARIEN
DARIEN
PACIFIC OCEAN
CORDILLERAS DE LOS MUROS
Two routes are shown, that described by Lieut Collins, and another slightly longer route which was outlined by the second Selfridge expedition
Tunnel
Proposed Canal
Rio Tapipi
Capitol Lieut
78°
77°
9°
8°
7°

The Valley of the Atrato and the Proposed Inter-Oceanic Ship Canal

"It can hardly be necessary at the present time to enter into any lengthened argument to demonstrate the necessity of a ship canal between the Atlantic and Pacific oceans. From the day that Balboa first gazed at the Pacific,

> . . . . and all his men
> Looked at each other with a wild surmise,
> Silent, upon a peak in Darien,

the project of obtaining, by some means, this much desired communication has not ceased to occupy a prominent position in the thoughts of all nations.

"Events of surpassing interest have, as a matter of course, at various times drawn popular attention from the subject, but it has never failed, on the return of favorable conditions, to reassert its claims to recognition as one of the leading questions of the day; increasing the vehemence of its demand with each successive reappearance, as the rapidly growing commerce of the world has called in louder and louder tones for its accomplishment.

"No sooner, in fact, had Balboa announced his splendid discovery to his sovereign, than the Spanish government, quick to realize the importance of possessing the key to the New World thus opened, ordered immediate exploration along the coast with a view to discovering a passage thence to the Pacific. Failing in finding a natural strait, the idea of constructing an artificial one at once presented itself, and from that day to this, exploration after exploration has been undertaken for the purpose of determining the practicability of such a scheme.

"It must stand forever to the credit of the Navy of the United States that the explorations undertaken during the last three years, under the auspices of the Navy Department, and carried out by officers of the Navy under Commander Thos. O. Selfridge, have been of so thorough a nature as to leave no question unanswered concerning every possible route for a ship canal south of Panama.

"Singularly enough, the attenuated neck of land, known as the Isthmus of Panama or Darien, which has, since the earliest discovery, stood as an apparently insignificant barrier, between the two oceans, has been found to present in itself an insurmountable obstacle to the very enterprise which its narrowness at first suggested. Were we dependent upon the isthmus alone for a practicable canal route, this much desired object would have to be set down as one of the wishes of mankind destined to be unfulfilled.[2] Fortunately, however, nature has been kind enough to provide a route, which, long concealed among the hills and forests of the Continent of South America itself, has at last been brought to light by the patient researches of the expedition to which we have just referred.

"On the map exhibiting the northwestern portion of South America, the reader will find in the state of Cauca, one of the United States of Colombia, the Atrato River, which, rising in latitude about 5° North, and flowing in a northerly direction nearly parallel to the Pacific Coast, finally empties into the Gulf of Darien through a delta comprising many mouths. This river, which, upon an ordinary atlas appears of insignificant proportions, is really a magnificent stream. Two thousand feet wide at a distance of 180 miles from its mouth, it possesses an unobstructed channel (with the exception of a bar at its mouth) thirty feet deep to this point, and is therefore capable of floating the heaviest ships as far as the mouth of the proposed canal without difficulty.

"As may be supposed, the proximity of this river at certain portions of its course, to the Pacific Coast, has not escaped the notice of persons interested in the canal scheme, and several explorations have been undertaken with a view to connecting the river with the Pacific by a short cut through the Cordilleras, which are here comparatively low. The reports of these expeditions, while settling beyond a doubt the possibility of uniting the Atrato with the Pacific, were not sufficiently favorable to attract the attention of capitalists; and in this state the matter rested until the winter of 1871, when Commander Selfridge, then engaged in surveying the Atrato Tuyera

[2] Admiral Leutze explains this apparently casual dismissal of the possibilities of the Panama route, by saying that all explorations in the vicinity of Panama had been entrusted to the officials of the Panama Railroad Company. Evidently with an eye upon their own livelihood, these officials invariably reported that the construction of a canal at Panama was impossible. It was not until 1875 that a naval expedition examined this route.

route further north, had his attention called to the subject.

"He, believing, from information derived from various sources, that a better route than any previously explored could be found in this locality, at once fitted out a party to undertake the work. This party, under command of Lieutenant Collins, U.S.N., started from Cupica Bay on the Pacific side and, crossing the divide, followed the Napipi River to its junction with the Atrato, obtaining results so favorable as to draw unqualified expressions of surprise and approval from many of the most eminent engineers of the country. So well, in fact, was the report of this survey received, that it was deemed advisable to make the most extended researches in the vicinity of the Napipi with the hope of improving upon the line already obtained, and for this purpose Commander Selfridge's third expedition was fitted out and entered upon its task in January, 1873.

"The triumphant success which crowned the efforts of this expedition has already been announced to the public through the daily papers. By leaving the Napipi at its confluence with its principal tributary from the southward, the Doguado, and following the valley of that river to its headwaters and thence across the dividing ridge to the Pacific, a line was obtained where the entire cutting required for the canal will be but twenty-eight miles; and of this short distance, more than twenty miles are through an almost level plain, presenting no engineering difficulties whatever.

"The country through which it is proposed to run the Interoceanic canal is not like Suez, a dry barren strip of sand, but a country possessing a soil unrivalled in fertility and rich in precious metals, awaiting only the hand of man to draw them from their concealment. Nor is it wanting in attractions for the tourist, pleasure seeker, or invalid in search of health. The scenery among the peaks of the Cordilleras is unsurpassed in loveliness, and on the Napipi and Doguado Rivers hot springs are found to which the natives resort to cure their ailments, and which will doubtless be found as efficacious in this respect as any of those now celebrated in Europe or America.

"As for the canal route itself, let us present a few facts from which the public may judge for itself as to whether it be practicable or otherwise. And first let us state exactly what is meant by a 'practicable route.' A route is not to be pronounced a practicable one simply because it appears possible, by an unlimited outlay of money and in an indefinite time, to accomplish the required work. To be practicable, in the proper sense, it must be shown from preliminary surveys, that the proposed route presents the necessary qualifications as to harbors, etc., and that the work can be performed in such a reasonable time and for such a sum of money as to make it a paying investment for those who put their money in it. From calculations of the probable revenue that the canal will yield when first opened, it would appear that the aggregate estimated cost should not exceed $150,000,000; nor the required time, ten years.

"The line proposed by Commander Selfridge, which is designated as the Napipi-Doguado route, requires, as previously stated, but twenty-eight miles of cutting. Leaving the Napipi and following to the southward and westward the Doguado, the ground begins to rise somewhat rapidly, and about four miles of comparatively deep cutting would be required to bring the canal to the beginning of the steep acclivity of the ridge. This ridge, 650 feet high, and three miles thick at this point, it is proposed to pierce with a tunnel sufficiently large to admit the passage of the heaviest ships with topmasts 'housed.'

"In order to diminish the cost, it has been proposed to keep the cutting near the surface by locks. For this purpose eight would be required on the Atlantic side and twelve on the Pacific—the four additional on that side being required to overcome the forty feet of elevation above the datum line, presented by the surface of the Atrato at the point where the canal enters it. Such a canal, with twenty-five feet of water and an average surface width of 110 feet, could, it is estimated, be built for less than $70,000,000.[3] But locks, although desirable as a means of reducing the cost of the work, are by no means a necessity on this route. Calculations have been made which show that a canal could be here constructed on a dead level, so as to be filled from the Atrato itself, for less than $100,000,000.

[3] The Panama Canal cost $375,000,000, and required approximately six years to build.

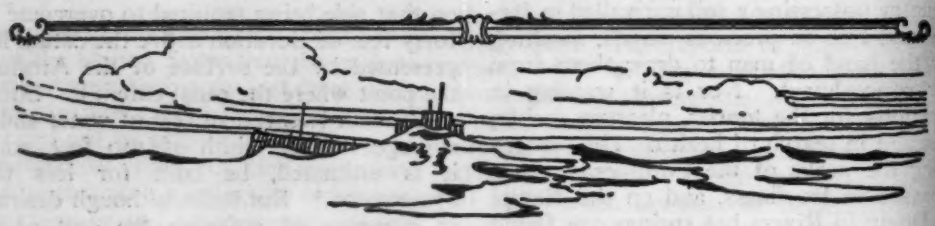
"Such moderate figures cannot fail to impress the public mind forcibly. Allowances have been made for excavation, gates, masonry, machinery, piers, depots, light houses; for the executive, engineer, pay, commissary, quartermaster and medical departments. To the gross sum thus obtained, twenty-five per cent has been added for unforeseen contingencies, and the grand totals have fallen short of the sums stated above in round numbers. They are, therefore, presented with confidence as liberal estimates.

"The tunnel it is proposed to make sixty feet wide and one hundred twelve feet high from the bottom to the crown of the arch; and at the mention of a tunnel of these dimensions, the public is apt to look wise and shake its head. But why? It is a bold scheme, 'tis true, but this is an age of bold schemes. The Pacific Railroad was a bold scheme, the railroads of Chile and Peru, climbing the dizzy heights of the Andes, were bold schemes; the Mont Cenis tunnel was a bold scheme, but they are all accomplished and will be handed down to the latest times as proofs of the daring enterprise and engineering skill of our times. If a tunnel eight miles long under the Alps for a railroad, and one half as long still nearer home for the same purpose, why not one three miles long under the Cordilleras for a ship canal?

"Other eminent engineers have given the project unqualified endorsement. The idea, then, of a tunnel should no longer remain in the public mind as a *bete noir* in the way of this enterprise. In the words of a recent writer: 'The vast works of the ancients, constructed with rude mechanical appliances, which stand to this day to challenge our admiration, rebuke our boasted spirit of progress and enterprise for its tardiness in piercing the frail barrier which now separates the waters of our two great oceans.'

"It is of vital importance to us of the United States, if we wish to regain our lost maritime supremacy, that we obtain possession of this key to the wealth of the Indies and to the control of the vast commerce that must spring up as the innumerable islands of the Pacific are developed. Delays are dangerous, for other nations are already preparing to step in and take advantage of the knowledge so laboriously obtained at our expense. It is now within our reach—shall future generations condemn us for being so short-sighted as to allow it to slip from our grasp?"

For information regarding the various naval surveys made on the Isthmus, the Institute is indebted to Rear Admiral E. H. C. Leutze, U.S.N. (Ret.), who was himself a member of the Nicaragua and Panama Expeditions.



Courtesy Naval Historical Foundation

SURVEYING ON THE NAPIPI

(EDITOR'S NOTE: This and the following four illustrations are reproduced from penciled sketches made by Lieutenant F. Collins, U.S.N., a member of the expedition in the field. See page 1196.)

Courtesy Naval Historical Foundation

THE FANDANGO

Courtesy Naval Historical Foundation

THE FANDANGO

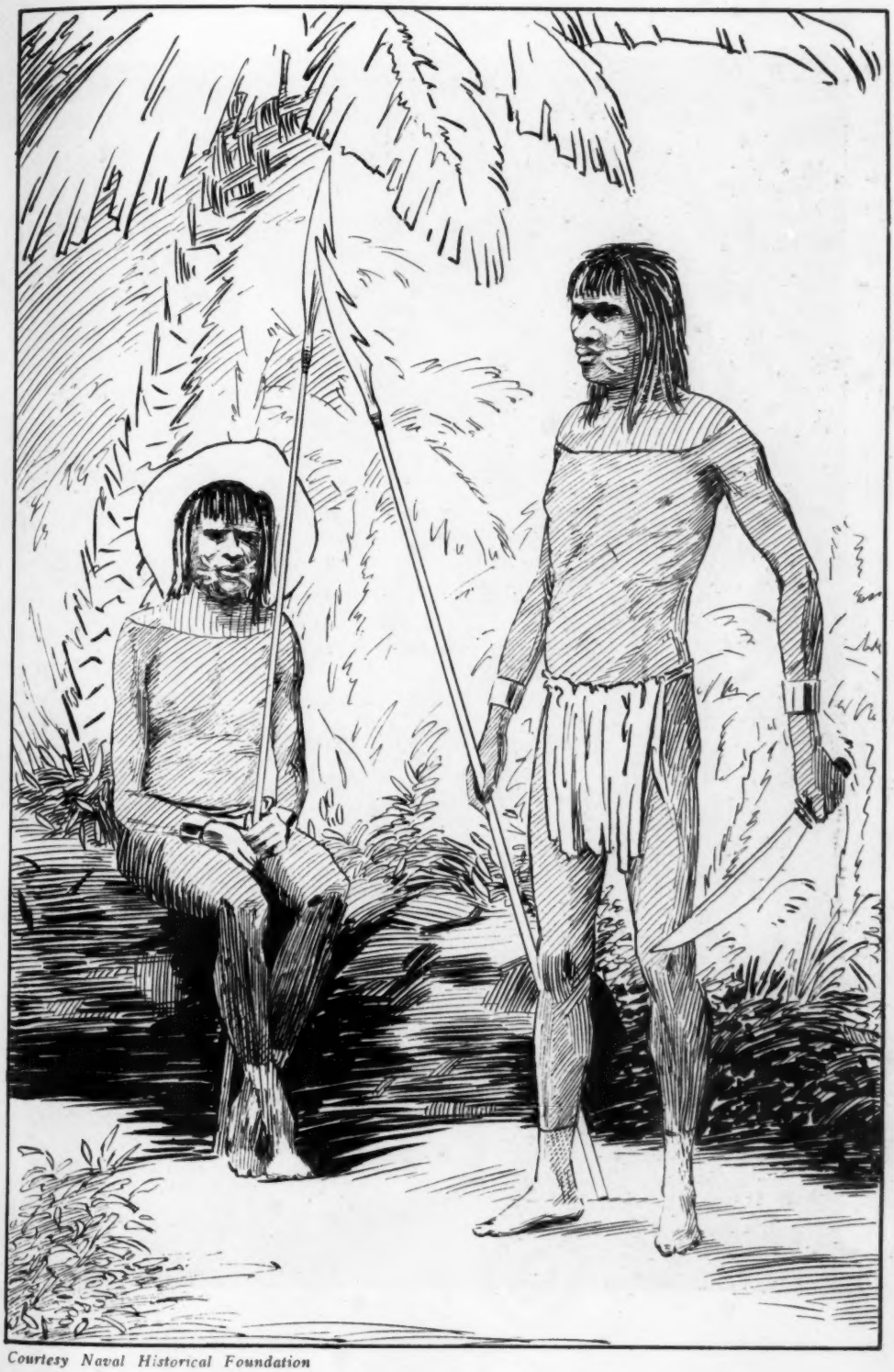
Courtesy Naval Historical Foundation

ALLIGATOR SHOOTING ON THE ATRATO

Courtesy Naval Historical Foundation

THE EXPLORERS IN CAMP

Courtesy Naval Historical Foundation



Courtesy Naval Historical Foundation

CHOCO INDIANS

From a painting by C. R. Patterson

EARLY AMERICAN FRIGATE "RANDOLPH"

From a painting by C. R. Patterson

EARLY AMERICAN FRIGATE "RANDOLPH"

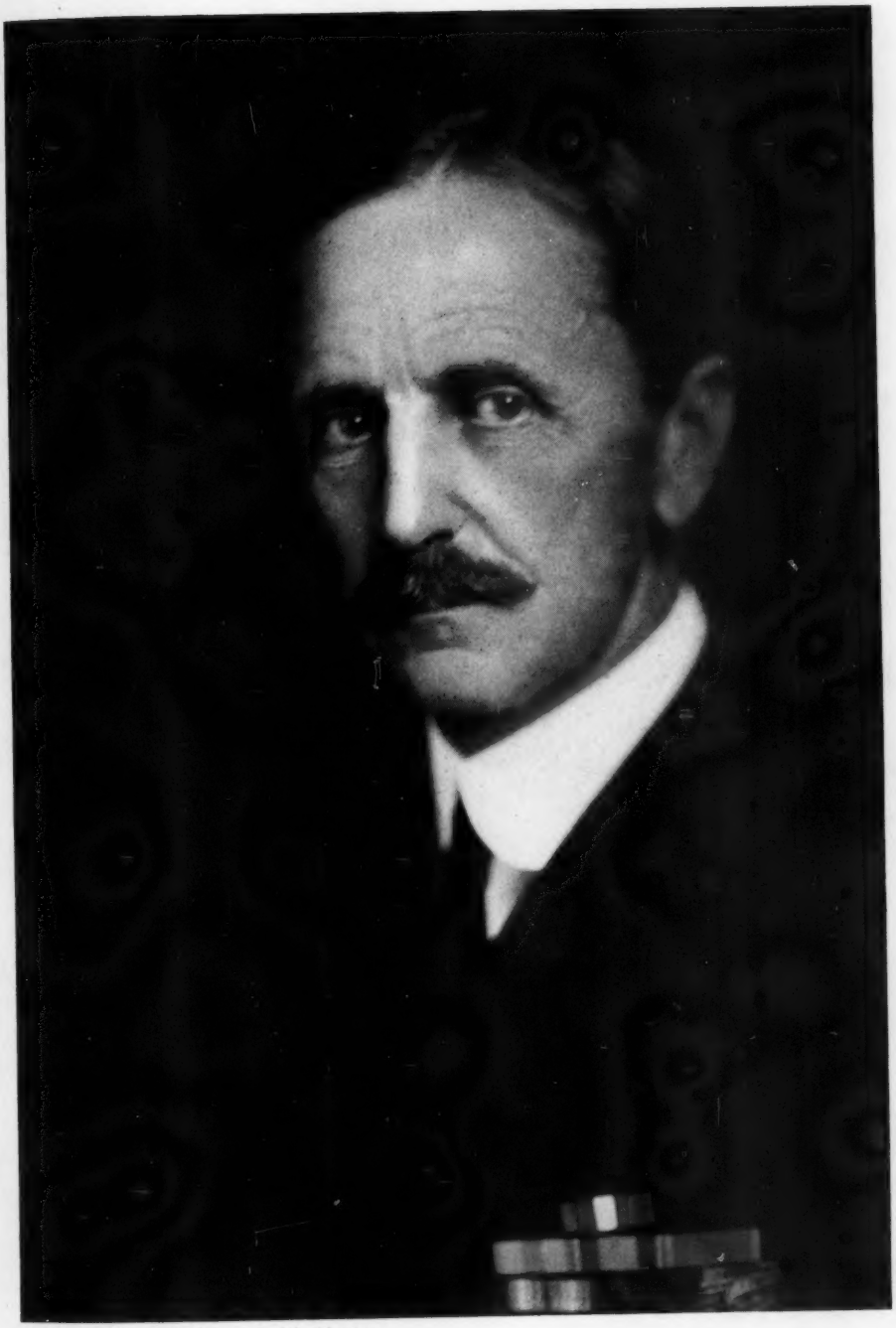
From a painting by C. R. Patterson

AMERICA'S ANSWER, 1812

Showing the *President*, Commodore Rodgers, and squadron at sea after leaving port one hour after declaration of war.

From a painting by C. R. Patterson

U.S.S. "TEXAS," THE NEW FLAGSHIP OF THE FLEET (RECENTLY MODERNIZED), AT FLEET MANEUVERS



Underwood and Underwood, Washington

ADMIRAL R. H. JACKSON, U. S. NAVY
The recent Commander-in-Chief of the U. S. Battle Fleet.

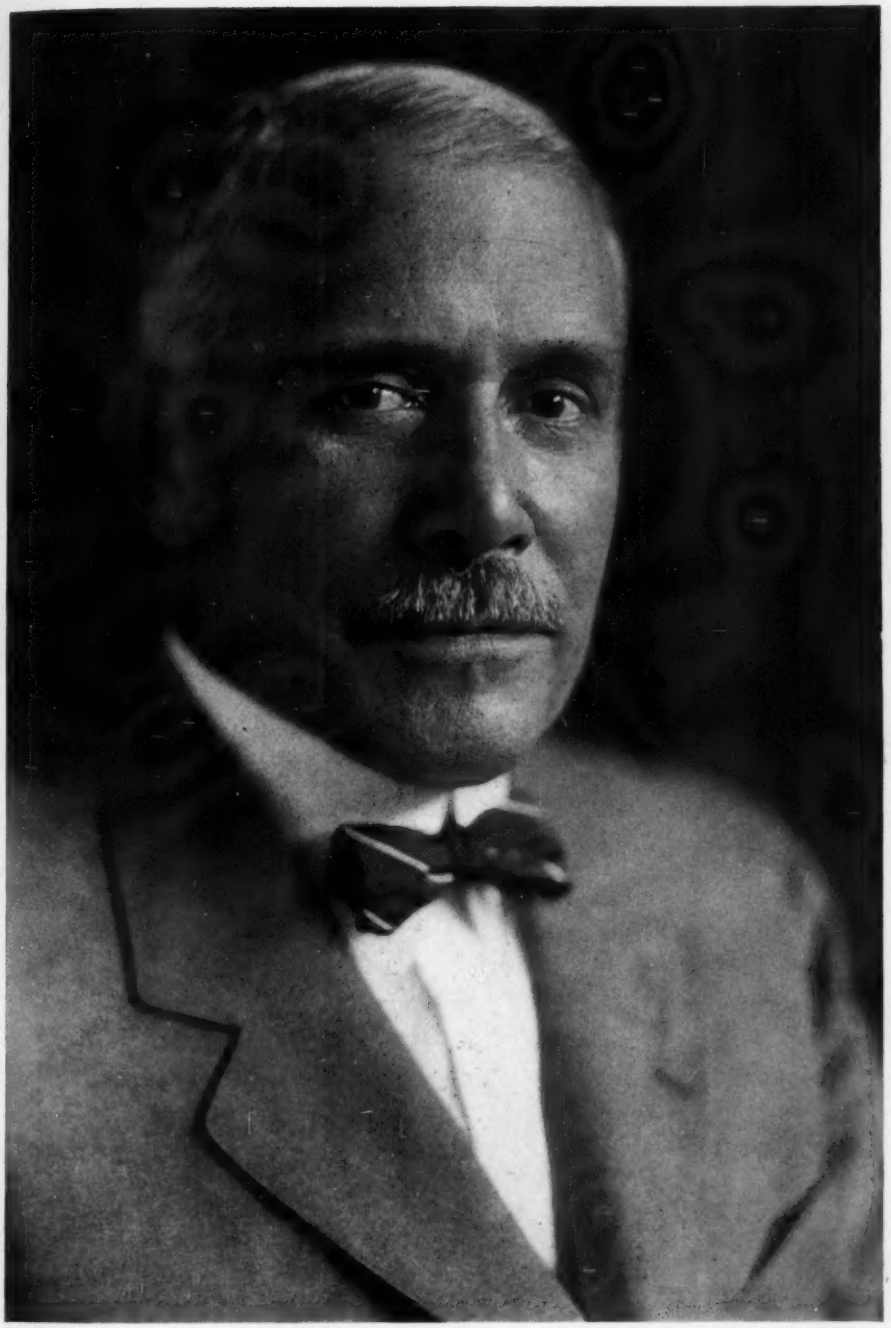
From a painting by C. R. Patterson

U.S.S. "TEXAS," THE NEW FLAGSHIP OF THE FLEET (RECENTLY MODERNIZED), AT FLEET MANEUVERS

International Newsreel

ADMIRAL LOUIS R. DE STEIGUER, U. S. NAVY

The new Commander-in-Chief of the Battle Fleet, who relieved Admiral R. H. Jackson, U. S. Navy. Admiral de Steiguer has recently been in command of the Battleship Divisions, Battle Fleet.



Underwood and Underwood, Washington

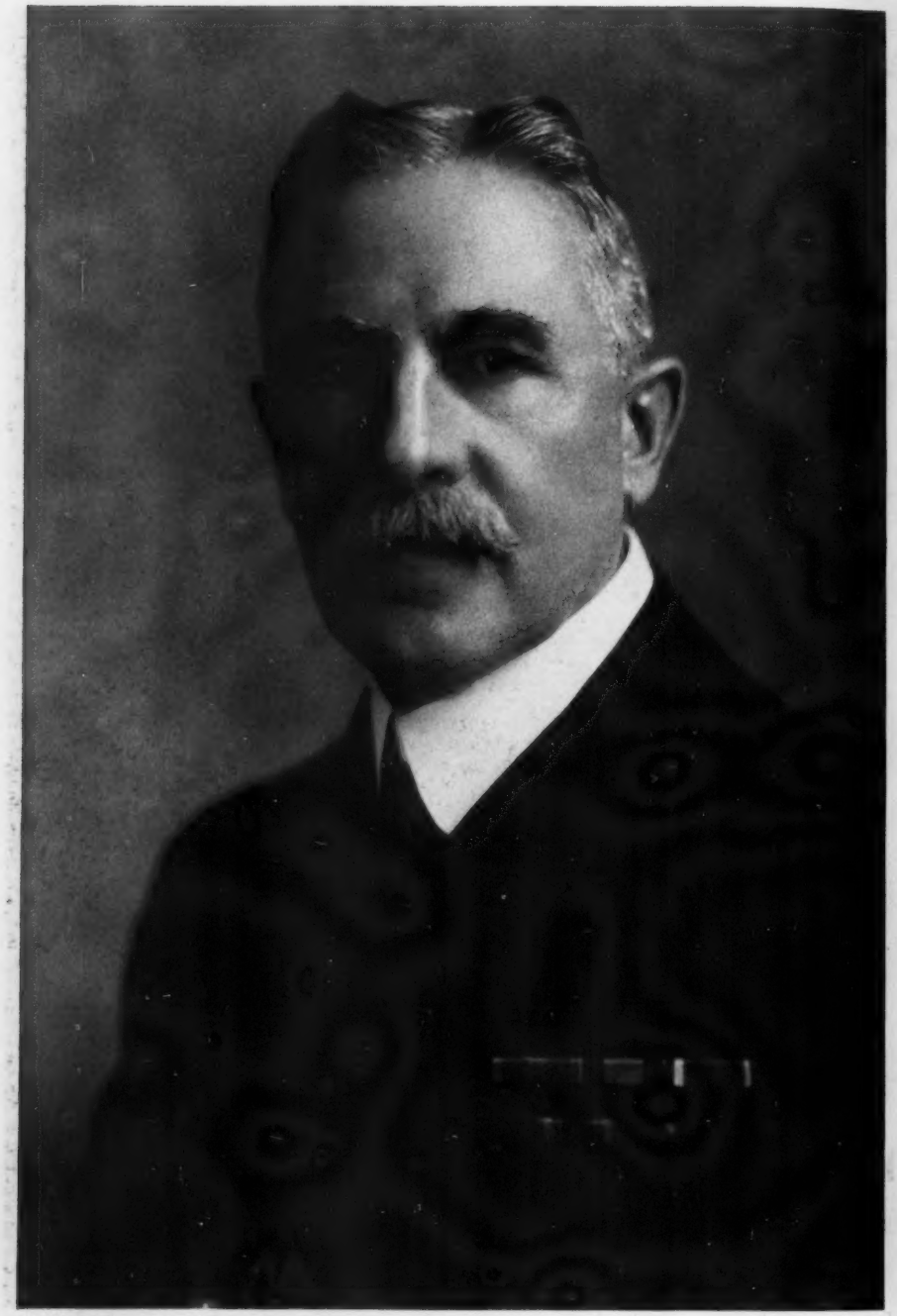
VICE ADMIRAL WILLIAM V. PRATT, U. S. NAVY
The new commander of the Battleship Divisions of the U. S. Battle Fleet.

Underwood and Underwood, Washington

ADMIRAL C. S. WILLIAMS, U. S. NAVY
The recent Commander-in-Chief, U. S. Asiatic Fleet.

Underwood and Underwood, Washington

ADMIRAL MARK L. BRISTOL, U. S. NAVY
The new Commander-in-Chief, U. S. Asiatic Fleet.



Underwood and Underwood, Washington

REAR ADMIRAL H. H. HOUGH, U. S. NAVY

Commander Yangtse Patrol, U. S. Asiatic Fleet. The last few months of troublesome times in China have made the duties of this command extremely arduous.

Underwood and Underwood, Washington

VICE ADMIRAL GUY H. BURRAGE, U. S. NAVY
Commander U. S. Naval Forces, Europe.

Underwood and Underwood, Washington

REAR ADMIRAL D. F. SELLERS, U. S. NAVY
New Commander U. S. Special Service Squadron in Central America.

How *to* Recognize Propaganda

By K. L. Buell

IT IS publicity when you use it yourself and propaganda when the other fellow uses it. It is an educational campaign when it is in harmony with your own thoughts, opinions and aspirations, and propaganda only when you disagree emphatically with the views set forth. The average man has one infallible rule, therefore, by which he can always tell whether an editorial, a sermon, a leading article or a political speech is or is not propaganda. The thoughts expressed come under this opprobrious epithet if the reader does not agree with them. To the Dry, the arguments against the imbibing of intoxicating liquors and the evil effects therefrom constitute an educational campaign of great moral value and any criticism of the Eighteenth Amendment is propaganda for the liquor interests. To the Wet, literature that is disseminated to prove the evils of alcohol is nothing but propaganda, and opposition to the Eighteenth Amendment is a statesman-like effort to bring our Constitution back to first principles. Judging by this standard anyone may recognize propaganda at a glance merely by reading, or hearing the argument in dispute and deciding whether it does or does not agree with his personal prejudices, his inherited traditions, his religious convictions or his political opinions.

Nevertheless, there is such a thing as propaganda. It is a deliberate effort on the part of an organized group to influence public opinion for a definite end. It makes no difference whether the end in view is good or bad; whether the effort to influence public opinion is made in an attempt to conserve the traditional institutions of a country or to break down those institutions and bring about a revolution. It is propaganda if it is an organized effort for a deliberate purpose. It is absurd for the defenders of our ancient institutions to claim that all dissenters are the victims of propaganda while all the orthodox are exercising the right of free thought and free will. It is equally ridiculous for those who hold revolutionary, or unorthodox, views to look upon themselves as persons of free mind and free opinion while declaring that all the conservative, the orthodox, and the respectable are victims of institutional propaganda, past and present. Every large group that is making an attempt to influence public opinion for any purpose not only does use propaganda but must use propaganda. And there are many such groups. The man who really wishes to do his own thinking, or whose duty it is, because of his official position, to weigh and balance various forces at work on the public mind, must be able to recognize this propaganda when he sees it and trace it to its source. Otherwise he will not be able to judge its content or to evaluate its importance.

The question to be decided in the last analysis is, of course, the truth or falsity of the argument itself. But before it is possible to begin to weigh the value of an idea it is necessary to ascertain whether the idea is spontaneous, forced upon the speaker by the facts, or is part of an organized propaganda with some distant end in view. There has been, for instance, an agitation of late for the prohibition of firearms in the United States. It is very difficult for the best informed citizen to decide for himself as to the value of such legislation. There is much to be said on both sides. On the one side is the obvious disadvantage of permitting the criminal classes easy access to firearms. On the other side is the disadvantage of depriving a citizen who lives in the country of his means of defense, as well as the very serious blow that would be dealt our national defense by the abolition of our arms manufacturers. This is a wholly domestic question and should be decided exclusively on its merits. Yet to the skilled propagandist the agitation has all the earmarks of organized propaganda. Now it is important to the man who must cast his vote on such questions, especially to the man who as editor,

minister or politician has an influence over the votes of others, that he know, with reasonable certainty, just what is the source of such a campaign. If, as may be the case, this particular agitation is a spontaneous demand on the part of the police and the courts for legislation that will assist them in dealing with crime it is deserving of every consideration. Those who have the responsibility for suppressing crime should be heard with respect when they speak on that subject out of their own experience. If, on the other hand, the demand for the abolition of firearms in this country, for ostensibly domestic purposes, has been stimulated by various semi-public organizations at the behest of the League of Nations, for the purpose of preparing the American mind for participation in League activities in regard to the private manufacture of arms, it is deserving of no respect whatever.

This illustration has been given at length to make clear the reason why it is necessary for those charged with the guidance of public opinion to understand something of propaganda. The average man, before he can weigh an opinion with any confidence, must know whether the proponents of that opinion are urging it for its own sake or for some more distant purpose. There is much talk in intellectual circles about the necessity for valuing an opinion on its merits without regard for the authority behind the opinion. But, in a complex civilization, such an ideal is impossible. No man can have genuine opinions on anything outside his own specialty and his own hobby. He must rely in other matters upon the authority of those who have made a lifelong study of the subject. It is therefore essential that he know whether the authoritative opinion is an honest opinion, a real opinion, or whether it is part of an organized propaganda.

There is a large body of belief, represented by many of our leading citizens and by the most conservative section of the press, that holds that the way to stop propaganda is to make every man, woman and child in the United States do his own thinking. It is urged that we so educate the entire population that each individual will view life and affairs with a disinterested mind, unswayed by emotion, and thus become unsusceptible to propaganda. It is surprising that the very people who scoff at the milleniums urged by socialists and others should be the ones to invent this little Utopia of their own. A great population capable of guiding all its affairs on the basis of pure reason would be a magnificent achievement were there the slightest hope of producing such a population, by education or otherwise, within the next two thousand years.

The pursuit of propaganda therefore, devolves upon the leaders of the community. Those who are required by the nature of their work to speak from the college platform or the pulpit, to write for the press, or to reduce political ideas to simple formulas are the ones, and the only ones, who need to make such a study, are indeed the only ones who can make such a study. They comprise the only section of the public that takes a real and continuous interest in large questions of social and political importance. It is for that very reason that much propaganda, especially foreign propaganda, is aimed at the intellectual rather than at the mass. It is believed, and correctly believed, that a subversive idea once firmly planted in university, religious or cultural circles, will percolate slowly downward.

How then can the educated man interested in public affairs so train himself that he will recognize propaganda? How is the minister, who is urged to preach a sermon on Peace on Earth, to know whether the alleged facts in regard to war that are supplied him by some peace society are honestly compiled for an honest purpose or are supplied by an organization which draws its inspiration, if not its funds, from the propaganda bureau of a foreign power, eager to see us weakened in the face of an armed world? How is the editor, busily engaged in disseminating the news from day to day, to know whether the carefully reasoned argument that he hears from a prominent citizen is the genuine opinion of this man, whom he knows and trusts, or is the echo of some highly colored and disingenuous speech with which his friend has been recently impressed? How is the professor to know whether the economic opinions of the eminent scholar, who has come from abroad to teach at his university, are based upon that scholar's own study and research or are opinions that have been handed to him by his own government for dissemination here? How, in a word, is even the most highly educated person to know all this at a glance? The answer is, of course, that it simply can't be done. There is no

man living who can "recognize propaganda for just what it is whenever he hears it or wherever he reads it."*

But while it is quite impossible to recognize propaganda on sight, just because it is propaganda, it is quite possible to become so familiar with any given proganda that it will reveal itself in spite of the best efforts of its proponents to conceal it. A study of the aims, dogmas, slogans and apologetics sent out by the large propaganda groups, social, religious and political, will be sufficient to guard the average man against the more serious pitfalls.

It is not necessary to discuss here the propaganda that is spread for commercial purposes. Such propaganda has been greatly over emphasized by the press, and this over emphasis has lead to a general adverse criticism of everyone who attempts to use this method of promoting a cause or spreading an idea. Publishers object to having a commercial idea appear in the news columns of a paper that has advertising space for sale. But whether or not the trade name of some commercial article creeps into the news column or remains within the proper bounds of the advertising column is a matter of concern to the trade only. It is a question that is of very little importance to the general public. Even where a skillful bit of commercial propaganda does have its effect upon the general public it is not a matter that need cause any serious apprehension. There is, for instance, a certain gentleman in England who feels that he can rest upon the laurels of a well spent career. He made it his life work to convince the public that tea should not be boiled, thus greatly increasing the sales of that staple product. But after all, the question of whether to boil or not to boil our tea is one that will not vastly affect the happiness of mankind, whichever way it is decided. It is the great social, religious and political propagandas that must be studied lest they wreck our institutions and ruin our future.

The methods by which propaganda is disseminated are not in themselves of the least importance. Whether an idea is presented from the lecture platform by an enthusiastic orator or is spread by word of mouth from one professor to another, whether it is sent out in the form of a poster or slipped into the columns of the daily paper, has nothing whatever to do with the value or lack of value of the idea presented. Whether the idea carries with it an emotional appeal to the simpler prejudices and instincts of mankind, or is couched in the complicated and highly technical language of the so-called expert, has nothing to do with the truth or falsity of the argument. Just as many silly ideas, subversive ideas, have been foisted upon the public under the guise of scholarship as by the demagogue. The particular method used in spreading an idea is not, therefore, important in itself. It depends entirely upon the constituents of the group to be reached and the character of the idea to be spread, whether the method chosen is of one kind or another.

These methods increase in complexity according to the size of the group that must be reached and the importance of the end to be gained. It is propaganda when a group of charitably minded neighbors organize for the purpose of raising funds for a new park or to improve the health conditions of a township and make speeches and distribute literature with that end in view. It is not, however, a very difficult sort of propaganda to detect. There is no reason to conceal the object behind the effort and no great amount of subtlety is required to achieve the purpose. Even a nationwide campaign for some obviously useful purpose can use methods so open that they are instantly recognized. The campaigns of the Red Cross to raise funds or the campaign conducted by the Government during the war to conserve the food supply were propaganda campaigns on a large scale but, as there was no opposition to the ends in view, there was no need to conceal the fact that the efforts were propaganda efforts and they could be, and were, recognized as such. It is not until a propaganda campaign meets real opposition that it begins to take to cover, not until there is a feeling on the part of those conducting the propaganda that its aims will be distasteful does it begin to use subtler and more involved methods.

Let us use as illustration the workings of a propaganda that everyone understands and with which everyone is familiar. Science has found itself, of late, opposed by the organized propaganda of a certain school of religious faith. This group, as everyone knows, is made up primarily of those who

* Editorial in the *Saturday Evening Post*, January 15, 1927.

believe the Bible to be the infallible Word of God. It is not hard, therefore, to understand such an event as the Scopes trial. Those who believe the above mentioned dogma must, almost inevitably, take a position opposed to the doctrine of evolution. It would be perfectly foolish, therefore, to go in search of some psychological mystery or weakness in scientific thought with which to explain the phenomenon in Tennessee. All that it is necessary for the searcher after the truth to do, in order to understand the opposition to evolution, is to send to one or another of the great churches involved for literature and to familiarize himself with the arguments and dogmas there set forth. He will never thereafter be in any danger of mistaking an argument against evolution that is based upon religion for a genuine scientific doubt. He will recognize almost anywhere the point of view and the phraseology of those anti-evolutionists who are speaking or writing from a religious premise. There is not the slightest danger that he will mistake a Methodist tract for a pamphlet by the Smithsonian Institute.

But while the searcher after the unadulterated truth is making this and other studies for the purpose of innoculating himself against propaganda, there are a few simple rules that can be put into effect at once.

Beware of pamphlets and free literature. Arguments, information or statistics that are widely distributed free to the public at large, or to selected sections of the public, are necessarily and on the face of them, propaganda of some kind. No one gives away something for nothing. There is a purpose good, bad, or indifferent behind every such distribution of literature. And the alleged facts or statistics are almost certain to be colored by that purpose. Use these facts and statistics, by all means, if they are interesting or significant. But verify them first by reference to an encyclopedia, an almanac, a government report, or any other neutral source of information. And make a mental note of this pamphlet and propaganda so that you will recognize it thereafter wherever you see it.

Take the advice of foreigners, all foreigners, with a grain of salt. This sounds a little provincial at first glance but is necessary, nevertheless, in order to maintain an unbiased view of the world. It is only human nature to have prejudices based on inherited tradition. Every man, consciously or unconsciously, is first an Englishman, a Frenchman, a German, a Dutchman or a Jew, and only secondly a citizen of the world. It is sad, but nevertheless true, that even scientists and scholars are afflicted with this common human trait. We have with us at present a great many visiting lecturers and university professors who are advising the American public how to conduct its affairs. It is greatly to the advantage of our scholarship that the poverty of Europe has given us the opportunity to profit by the learning of such men. What they have to say on their own subjects is a gain for this country, but when they speak on international affairs they must and do speak from the point of view of their own country rather than from that of the United States. And they are apt to carry with them some of their intimate friends and colleagues of American stock. A recent proclamation by forty-eight Columbia professors upon the subject of the cancellation of the war debts illustrates luridly how readily even scholarship may be made a pawn in the game of propaganda.

Never present one side of a problem only. Have the other side presented as well. Much propaganda is spread by the simple device of supplying lecturers free, or at low cost, to clubs of various kinds. Rather than go to the expense of engaging another lecturer, who may have to be paid full rates, to present the other side of the question, the club hears only one side and thus the propaganda spreads and spreads. If it is impossible to obtain a lecturer on each side of every controversial question one side may be made the subject of research by the club itself.

Be a bit cautious of sudden popular enthusiasms that have no apparent cause. A genuine popular wave of feeling always has some event as its motive force. Hatred of Spain was focused by the blowing up of the *Maine;* attention was called to Germany by the outbreak of the war in Europe; interest in the public health is stimulated in case of an epidemic; interest in party politics is aroused by the necessity for electing a president; and so on. But whenever a subject flares up as a matter of public interest without the presence of any event as a cause, that interest is almost certainly being stimulated by somebody's propaganda. Everyone, for instance, was interested, to some extent, in Russia at the time of the Revolution. But as nothing new of a startling nature has oc-

curred in Russia for years, interest in that country, such as it is, must be kept alive by artificial stimulation. The League of Nations, also, is a subject of this kind.

It is sometimes possible to spot an individual as a leader in some form of propaganda by noting the various activities with which he becomes associated. If a noted man appears on one committee as advocating racial equality; if he appears on another committee as urging better relations with the Orient; if he appears on a third committee for the purpose of stimulating an appreciation of Japanese art; and if in addition he has a decoration from the Mikado; the inference may be drawn that he has some definite connection, sentimental or sinister, with the Empire of Japan. And it may be said in passing that a decoration from a sovereign government is not infrequently conferred upon an American for his propaganda activities, intentional or otherwise, on behalf of that government.

Propaganda can sometimes be traced by its phraseology. The Socialistic propaganda, particularly, has a habit of coining unusual and sometimes awkward words and phrases. When these awkward words and phrases turn up in an apparently unrelated bit of argument it is a fair indication that the writer is at least strongly influenced by Socialistic thought.

And there is one general rule that should be applied to every argument before it is passed on to the public by the editor, the clergyman, the club leader, or the politician with aspirations toward statesmanship. It is this. "If this argument is followed to its logical conclusion, who will be the immediate and greatest beneficiary? No matter what the ultimate aim of the course here advocated, is there not some group that will benefit immediately if the plan is put into execution." An example of this line of reasoning would be an analysis of the pacifist program as applied to this country. It may, conceivably, be true that complete disarmament throughout the world would lead to universal brotherhood. But, as the voters of the United States have power only over our own armaments, to act upon the pacifist program would be to disarm ourselves. Who would be the immediate beneficiaries if such a program were undertaken? Obviously our armed rivals and potential enemies, if such exist. It would be fair, therefore, to suspect pacifism in this country of having the support of foreign trade rivals and potential enemies. This does not mean that every propaganda that has the support of some unrelated group, and most have, is wrong in itself. But that support should be taken into consideration.

But there are no tricks of the trade that will take the place of a serious study of the aims and purposes of the great organizations now actively engaged in spreading propaganda on a large scale. No man should attempt to guide others in their thinking upon large social and political issues until he has made such a study. Of course it is not necessary to follow up every cult, charitable organization and political notion that comes to his attention. Nor is it necessary to study even a great propaganda, such as that of Pan-Islam, that does not directly affect this country. But every such man should have a knowledge of the purposes, aims and fundamental dogmas of the three great religious groups dominant in this country; the group of Orthodox Protestant churches, commonly referred to as Fundamentalists; the group of Liberal churches, of which the Unitarian church is an historic example; and the Roman Catholic Church. He should know something of the code of morals and manners underlying monarchy and the feudal system. While no one is now advocating a return to those two institutions as forms of government the mental pattern produced by them is still actively at work in world affairs. He should understand the theories that underlie our form of government as expressed by its founders, and have some conception of the basic principles of the common law. He should be thoroughly familiar with the dogmas of Socialism, its aims, its purpose and its avowed method. Especially he should read some of the propaganda emanating from Moscow, the official pronouncements of the Communist group. He should know the objects of the various racial groups resident in this country. And he should understand the purposes of the propaganda that originates in Western Europe.

This program is not, as would appear at first glance, a very large order. The reading of half a dozen standard works of history, which will be recommended by any good librarian, will give the background for many trends of thought that are to the American mind inexplicable and mysterious. Definite information as to the purposes of religious

bodies, racial groups, and the Socialist school of thought can be had upon request. The purposes of Western Europe are not so openly stated by their proponents. They have been summed up by Mr. Garet Garrett, formerly editor of the New York *Tribune,* in an article in the *Saturday Evening Post,* as follows:

> That Americans should charge the war debts to themselves; that the United States should sit with the powers of Europe in the League of Nations and submit to the World Court; that it should be content with the second largest navy and practice unpreparedness for war; that it should denationalize its ambitions, regard its wealth as a gift in trust for the benefit of the world, and feel internationally.

This summary is sufficiently comprehensive for a practical working guide. The details may be gathered from a perusal of the foreign press, or even excerpts from the foreign press published in America, together with the exercise of a little common sense.

But when all is said and done, the seeker after truth must bear one thing clearly in mind. In order to be useful it is not necessary to be cynical. Propaganda is not in itself an evil or if it is undesirable in some respects, it is a necessary evil in the modern world. It may be that, after a careful study of propaganda such as is suggested in this article, the reader will find himself heartily in agreement with one or another school of thought here recommended for study. The thing to do in that case is to ally himself with the group with which he finds himself sympathetic and to push its propaganda openly and with enthusiasm. Man is a clubby and gregarious creature. It is a great satisfaction to join with others in a common cause and vibrate to a common emotion. All that can be expected of the ordinary mortal is that he shall understand clearly the cause for which he cheers. It is a rare soul who can free himself from all dogmas, theories and causes, and look reality in the face, who can understand all propaganda but follow none, who can truthfully say with Mirabeau, "I have swallowed all formulas." But to such a man, when he does appear, mankind turns for leadership as irresistibly as the planets follow the sun.

Trade

By CAPTAIN DUDLEY W. KNOX, *U. S. Navy (Retired)*

TRADE is undoubtedly at the bottom of the recent failure of the Geneva Conference on limitation of naval armaments. "The trade of the Empire is absolutely dependent upon the free use of the seas for its economic development and prosperity," said Admiral Jellicoe in an article on British Naval Policy published last year by *Brassey's Naval Annual.* "The blocking of the great traffic lanes along our seacoast and those leading to the United States over the seas," said Admiral Jones, U.S. Navy, in a speech at Geneva on July 4, "would unquestionably so dislocate the business of the entire country and bring such hard times upon us that it would mean practical industrial starvation on a scale beyond comparison." The rock upon which the Conference split was the question of cruisers—the type of vessel indispensable for trade protection, and conversely for trade attack.

Only recently has the United States graduated into the British class in world commerce. Until the late war Great Britain's foreign trade exceeded ours by 50 per cent. Today we are substantially equal; the values in billions of dollars of the 1926 trade being United Kingdom 9.8, and the United States 9.2. Moreover American commerce is still gaining rapidly over the British in the great markets of the world. Consider for example an item respecting China in the July, 1927, issue of *Commerce Reports,* the official bulletin of the Department of Commerce, from which the following is quoted:

> With the exception of American trade, which in the first quarter of the present year registered an increase of twelve per cent, the aggregate trade of other countries with China showed declines compared with figures of the corresponding period of last year. The trade of the United Kingdom with China decreased seventeen per cent, while Japan's trade for this period suffered a decline of twenty-five per cent. For the first four months this year American trade with China, including Hong Kong and Darien, exceeded that of any other country.

Elsewhere the trend is similar, if not so marked. Referring to the latest Department of Commerce *Yearbook* we find that in two years American trade with Australia has nearly doubled while British trade has increased only in the ratio of five to six. With Japan, British trade has actually declined ten million yen while ours has gone up one hundred and fifty million. During the same two years with India, British trade dropped ten per cent and American trade went up ten per cent. So much for the greatest markets in the great Orient.

Turning to South America, which is rapidly approaching the importance of the Far East as an outlet for the manufactured goods of the industrialized nations, again we find the United States making substantial encroachments upon British trade. With Argentine and Chile the British and American imports have increased about equally, but throughout all the enormous territory to the north the trend is very much like that in the Orient. The figures for Brazil will suffice as an illustration. In 1922 British imports were leading ours 427 (thousands of milreis) to 379. By 1924, the latest year for which statistics are at hand, United States imports had jumped to 674 as compared with 666 for Britain. Thus we had taken the lead from the British in two years' time.

Canada may be an exceptional case. Being close at our door it is natural to expect that our trade with her, both export and import, would greatly exceed that of Britain. It is also true that our rate of increase is much the greater, which must have some connection with the recent "supersales" speech at Montreal by the British Prime Minister.

But what about western Europe, which is at the door of England? Her exports to Germany declined 10 per cent during the last two years while American exports to that country nearly doubled. The same gen-

eral trend with respect to Italy, France and Spain is evidenced by the official statistics, though in less degree than in the case of Germany. So it is also with Belgium, Sweden, Bulgaria, Egypt, and many of the lesser markets throughout the world.

Thus we see the United States rapidly emerging as the leading power in world trade, largely at the expense of Great Britain which has played the dominant rôle for more than a century. Manifestly this condition cannot be ignored when it comes to consideration of naval limitation in types of ships upon which trade protection and trade attack primarily depend. That it has been carefully appraised by the British government within the last five years seems evident from the proceedings of the Imperial Conference of 1926, and from the drastic reversal of the official British attitude towards cruiser limitation which has recently taken place.

When the Washington Conference on Limitation of Naval Armaments met in 1921, Mr. Hughes offered a comprehensive plan applying the 5-5-3 ratio of strength to all classes of ships—cruisers and other auxiliaries no less than battleships. This met with the enthusiastic endorsement of Mr. Balfour, the head of the British delegation, in his maiden speech from which the following is quoted:

> We have considered the great scheme laid before you by our chairman [Mr. Hughes]. We have considered it with admiration and approval. We agree with it in spirit and in principle. It deals with the three great fleets of the world, and in the broad spirit in which it deals with these fleets, in the proportion of disarmament which it lays down for these fleets, the Government of the country which I represent is in the fullest and heartiest sympathy with the policy which the United States has brought before us for our consideration. [Applause]
>
> They have, as we think most rightly, taken the battle fleet as the aggressive unit which they have in the main to consider: and in the battle fleet you must include those auxiliary ships (including cruisers) without which a modern battle fleet has neither eyes nor ears, has little power of defense against certain forms of attack and little power of observation; little power of dealing with any equal foe to which it may be opposed.
>
> Taking these two as really belonging to the same subject, namely the battle fleet, taking these two, the battleships themselves and the vessels auxiliary to and necessary to a battle fleet, we think that the proportions between various countries are reasonable; we think the limitation of amounts is acceptable; we think it should be accepted [applause]; we firmly believe that it will be accepted.

Subsequent controversy over the submarine issue between the French and British resulted in a general disagreement over auxiliaries, so that at Washington no limitation in these types was effected. But at the time of Mr. Balfour's above quoted remarks the navies of only America, Britain, and Japan were under consideration. Delegations from these three countries constituted the recent conference at Geneva, and consequently the Americans assumed that proposals in accord with the Hughes plan respecting cruisers and other auxiliaries would be still acceptable and accordingly submitted a plan substantially the same as that which had been so wholeheartedly endorsed by Mr. Balfour. The "proportions between the various countries" as well as the "limitation of amounts" proposed by America at Geneva closely corresponded with the Hughes figures at Washington.

But at Geneva it soon developed that meantime the British position had been radically altered. Under a "smoke screen" proposal of their own to reduce the sizes of individual ships, they held out for excessively large quotas of total tonnage of cruisers which would have amounted to a large increase of naval armament, instead of a decrease, thus nullifying the purpose of a limitation agreement.

A compromise figure of 400,000 tons of cruisers was finally reached, instead of the 300,000 maximum originally proposed by the Americans and nearly 600,000 wanted by the British. But the British insisted upon certain reservations and conditions to their acceptance of the compromise figure, the general effect of which would have been to gravely impair the "proportions between the various countries." The theoretical parity in cruiser strength between the United States and Great Britain, under the special conditions sought by the latter, would actually have amounted to a large superiority for her, by virtue of what might be termed "hidden assets."

Here no implication of secretiveness is intended. Britain's great system of naval bases and her splendid fleet of merchant liners are matters of common knowledge. But their relation to cruisers of small displacement carrying guns of small caliber can be apparent only to technicians. What counts in naval operations is not the number of ships afloat so much as the numbers which can be maintained in a vital theater

of operations, which in turn hinges upon the availability of bases. One example will suffice. Under a parity agreement imposing small limits upon the size of cruisers, with correspondingly small cruising radius, Britain could keep at least twice as many cruisers at work raiding our vital coastwise traffic lane, as we could maintain on her principal trade route in European waters. This situation would follow from the fact of Britain having convenient bases at Bermuda and Jamaica, from which her cruisers could operate, whereas the United States possesses no corresponding positions on the European side of the Atlantic Ocean. While increasing the size of individual cruisers, and hence increasing their cruising radius, could never equalize this disparity, it would tend to do so.

Similarly the great British advantage in possessing some forty merchant liners suitable for conversion into auxiliary cruisers, as compared with about five for us, could never be eliminated by increasing the gun power of regular cruisers. It could only be minimized at best. In the late conference the Americans stood for eight-inch guns on cruisers—the size agreed upon at Washington in 1922 without any controversy, as reasonable and proper. With such a gun a regular cruiser would be more than a match for converted merchantmen which might carry guns as large as seven inches in caliber. The British, however, stood for a six-inch gun as the largest to be carried by the greater part of the regular cruiser forces. Manifestly such a restriction would operate to greatly enhance the value of auxiliary merchant cruisers, and thus prevent any approximation to parity between the two countries. It was upon this issue of the six-inch gun, more than any other, that the late Geneva Conference split.

How can we account for the British insistence upon such conditions of limitation, respecting the size of individual cruisers and of the guns carried by them, as would strongly tend to increase their already great inherent superiority incident to a superlative system of naval bases and very strong reserves of merchant liners? We had lip loyalty to the principle of naval parity between the two navies from all of their spokesmen. But the technical conditions of limitation from which they would not recede would have destroyed that principle utterly. The explanation can be found only in an assumed superior interest in and dependence upon trade by sea, consistently advanced by them.

"The United States Fleet is a luxury, whereas ours acts as a policeman, and we must see that that policeman is as strong as possible," said Rear Admiral J. D. Allen, R.N., at a conference of the League of Nations Union.

Mr. Bridgeman, in presenting the British proposal at the Geneva opening on June 20, 1927, stated that the British position rests on the following factors:

1. On the insular position of the mother country, dependent for raw materials, food and her very existence, on the free passage of the seas. This made her position unique and made discussion of naval disarmament more difficult than for any other power.
2. Length of trade routes.
3. Extension coast lines of all parts of the Empire and the long lines of communication to be protected against danger.

Sir Austen Chamberlain's statement to the House of Commons on July 27, 1927, contained the following:

The strength of fleets can be stated in figures and compared with precision. Their primary function is to fight other fleets and broadly speaking they can be compared with each other.

No such simple way of looking at the subject is possible in the case of small cruisers employed for police purposes in time of peace, and necessary for protection of lines of communication in time of war.

Geographical considerations cannot rationally be ignored. It can hardly be denied, as was clearly stated by us when accepting the President's invitation, that such vessels are a vital necessity to an empire whose widely scattered parts are divided from each other by seas and oceans and whose most populous parts are dependent for their daily bread on sea-borne trade and who would perish if it failed to protect its external trade.

It is to be further noted that the sea routes on which Great Britain depends for her existence lie largely in narrow waters bordered by other states. This is not the case with the United States whose most important lines of communication lie either on land within her own frontiers, by sea along her own coasts, or in the great oceans.

A large number of similar quotations could be made from British sources, arguing a superior need of naval power on account of a superior need of protection for sea-borne trade.

It should be replied at once that naval parity with the United States would give Britain ample security for the maintenance of her food supply. On this basis nothing which we could do would seriously jeopard-

ize her overseas routes across the North Sea and into the Baltic, nor even those through the Mediterranean to great grain growing districts about the Black Sea and in Australia. Even the supplies from Canada and the Argentine would be reasonably secure. The lack of American naval bases anywhere near these routes would give defending British ships every advantage.

The truth is that the British have given this "bread line" argument much greater emphasis than is warranted by the facts, and have used it as a screen for justifying an advantage in the ability to protect their wealth producing commerce, and in the corresponding power to attack the commerce of trade competitor nations. Without any question Britain today possesses sufficient naval strength to sweep from the seas not only our foreign commerce but our great ocean-going coastwise trade as well. The main effort of her diplomacy at Geneva was to perpetuate her existing superiority on the sea, which would enable her to do this.

When the real issue is narrowed down by logic to a question of the protection of wealth producing trade, the justice of America's insistence upon equality of naval power with Great Britain is apparent. Figures indicating a virtual parity in the foreign trade of the two countries have been already given. In addition the United States has a great ocean-going coastwise commerce alone as great as the total foreign commerce of Great Britain. It is all "internal commerce" yet follows sea routes as long as those connecting the British Empire. Its stoppage would bring us "hard times" on a scale beyond anything in our experience.

There can be no question of our inherent right to protect this wealth producing trade, at present so vulnerable to British interruption by reason of her great preponderance in cruisers and merchant liners which would be conveniently served by the naval bases at Jamaica and Bermuda. Nothing less than parity in cruiser strength would give us sufficient power to defend our great coastwise traffic lanes, to say nothing of our foreign commerce.

DISCUSSION

A Vanishing Naval Tradition—The Figure-Head.

(See page 1166, November, 1927, PROCEEDINGS)

REAR ADMIRAL ELLIOT SNOW (CONSTRUCTION CORPS), U. S. NAVY (Retired)—I am glad to see the PROCEEDINGS of the U. S. Naval Institute again become the repository of interesting historical data connected with the material of our Navy in the form of a contribution on the subject of our vanishing figureheads. In point of fact, since naval material is always produced as the result of associated effort of personnel there is good reason why both great branches of our service merit attention and research. Mrs. Lathrop, who has contributed the results of her researches as to figure-heads, has access to so much data and is so intimately associated with the records of the library of the Navy Department that she is well equipped to write on the subject she has chosen.

The reference to the figure-head of the Niagara, of Lake Erie fame, which vessel, she says:

> carried on her prow a finely carved eagle which has been mounted and placed at the Boston Navy Yard,

makes me wonder when it was acquired and mounted and whether or not it is known that the beautiful "eagle" figure-head of the *Niagara*, a steam frigate which helped to lay successfully the first Atlantic cable, no longer exists! About two years ago, its state of decay became so general that the carving was carted away and burned on the yard dump. "What became of the eagle's eyes?" I would like much to know!

The glass eyes of that historic, but now vanished traditional figure-head, were once paid for out of "Uncle Sam's" miscellaneous appropriation for street car tickets under the following circumstances. The figure-head was sent from the Boston Navy Yard, to the Jamestown Exposition in 1907, as one of the Government exhibits. At some time during the absence of the carving, presumably during the return journey, a relic hunter picked out the eyes of the eagle. Upon the return of the figure-head to the Navy Yard, the master joiner—Mr. George Warren Burroughs, was authorized and instructed "to restore its sight" by purchasing and resetting a new pair of eyes for which he advanced the cash. He was reimbursed with an equivalent value of street car tickets. Honest confession is good for the soul! But it may not be good for the pocket book.[1]

As to the figure-heads and billet heads of "Old Ironsides," in the form of bow scrolls, it is observed that the author has missed (as did until recently the contributor of this discussion) a very interesting fact about her "Jackson" figure-heads. Of these it is now quite definitely established that there were two: the first—the one decapitated by Captain Samuel Dewey (a cousin of Admiral George Dewey, U.S.N.), which was carried by the frigate on her cruise to the Mediterranean under Commodore Jesse D. Elliott (1835-1838); the second, which is now at the United States Naval Academy. This latter was carried by the *Constitution* in 1858 and probably long before, but was removed shortly before the outbreak of the Civil War and never carried thereafter.

Lieutenant Richard W. Gruelick, U.S.N., in the spring of 1926, ran across the *American Magazine*, Vol. I, No. 2, for October, 1834, in which were two woodcuts, the discovery of which closed the gap of information about the two figure-heads: one shows

[1] Many are the children of Boston and vicinity who have been told that "Every day when the eagle of the *Niagara* hears the clock strike twelve it flies down to the water front for a drink of salt water and then flies back again."

the *Constitution* wearing a bow scroll[2] in 1833; the other shows "Old Ironsides" lying between the seventy-four's *Columbus* and *Independence* in June, 1834, the month before the first figure-head was mutilated. The image of Jackson, there shown, checks up quite well with the early photograph, and the left arm is not bent and the hand is not thrust into the waistcoat as in the second one at the United States Naval Academy.[3] The date when the second carving was substituted for the first, it is hoped, may some time become definitely known.

It has been recorded on what appears to be good authority, that not counting the four billet heads, a fifth and last figure-head was carried by "Old Ironsides" in the shape of an eagle with outspread wings. At the moment this discussion is being penned, the records are being traced, but as yet they are unverified.

Although the author makes no mention of the figure-head of the *Constellation*—the "Grand Dame" of our Navy, so called because she is our oldest vessel afloat—it is deemed to be not inappropriate to say a word about it. In November, 1926, a muster roll of the *Constellation* was found in the archives of the Pennsylvania Historical Society. It was originally kept by Captain Thomas Truxton, in 1798, and in it was a complete description of the "Grand Dame's" figure-head. Its description follows:

> Nature represented in a pleasing ecstacy at the period of the American Revolution over which she presides; she is coated with fire; her waist is encircled with the signs of the Zodiac; her hair and drapery loose and flowing; her right arm elevated, her left arm resting lightly on a large sphere on which the constellation is rising; her feet on a rock, part of which is formed into a rude pyramid allegorical of the rapid and national Union of the States, which took place at the commencement of the Revolution and supports the sphere aforementioned.

The first frigate built by but not for the United States—the Algerine *Crescent*, launched in 1796 at Portsmouth, New Hampshire and soon after delivered to Hasan Bashaw, of Algiers, in tribute—carried as a figure a "Lion" in deference to the religious prejudice of that Corsair.

[2] Not the "dragon" bow scroll at the Naval Academy attributed to the *Constitution*, which, according to Lossing, was carried by the *Cyane*.

[3] The head of the figure head at Annapolis is not detached from the body, the whole having been carved from a single piece of wood.

Those who are interested in the fast vanishing traditions connected with the figure-heads of our Navy are here asked to keep a sharp look-out for descriptions of the figure-heads carried by our earlier vessels, particularly the early frigates. We know nothing of the figure-head of the *Philadelphia*, destroyed by Decatur in the harbor of Tripoli; nothing of our first *New York*, nor of the *Essex*, nor finally of the *Chesapeake* captured by the *Shannon*, June 1, 1813, off the harbor of Boston. Using the brave Lawrence's words, but in a different sense, "Don't give up the ship" as a subject of research, and when so doing observe and remember that figure-heads are a fast vanishing tradition.

It may be of interest to the readers of the PROCEEDINGS to publish the following list of publications in the Library of Congress and the Public Library of New York City.

Library of Congress:

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Anthony, Irvin. *Down to the Sea in Ships.* Philadelphia, 1924. Figurehead of the Danish barque *Kobenhavn* showing the elaborate workmanship, p. 236.

Charnock, John. *An History of Marine Architecture.* London, R. Faulder, 1800-02. 3 v. Rostra and heads of ancient vessels, v. 1, p. 120.

Chatterton, Edward K. *Sailing ships; the story of their development from the earliest times to the present day.* London, Sidgwick & Jackson, Ltd. 1909, 361 p. Figureheads especially prominent during the Middle Ages; Elizabethan ships, dragon and lion, p. 12,194.

Fincham, John. *A history of naval architecture. . . . .* London, Whittaker and Co., 1851, 415 p. Ancient vessels, plates between p. 6-7; *Royal George*, p. 63; Head of the *Invincible*, p. 84; Old beak-head, p. 205; The *Arrogant*, p. 365.

Jane, Frederick T. *Imperial Russian navy; its past, present and future.* London, New York, W. Thacker & Co., 1899. 755 p. "Kronstadt dockyard . . . . in the lower part of this building (a workshop) was a row of bow scroll-works for men-of-war. . . . . The idea of preserving and passing on the figurehead is distinctly a Russian novelty. The figurehead has never . . . . been much of a British institution. Fashion brought it in now and again in the old days, but it was several times ordered to be discontinued." p. 378.

Jurien de La Graviere, Jean P. E. *Les derniers jours de la marine a rames. . . . .* Paris, E. Plon, Nourrit et cie, 1885. 252 p. La Royale Galeasse du dix-septieme siecle, d'apres un modele du Musee naval du Louvre, p. 66.

Lescallier, Daniel. *Traite pratique du greement des vaisseaux et autres batimens de mer.* Paris,

Clousier, impremeur du roi 1791. 2 v in 1. Plates showing figureheads, no. 8, 11, 18.

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Robinson, John, *comp.* The Marine room of the Peabody museum of Salem. Salem, Mass., Peabody museum, 1921. 188 p. shield weighing 3,800 pounds, p. 62. Salem U. S. Cruiser, 1907, bronze figurehead, plate, side and front views, two feet high, said to have been carved by Samuel McIntire of Salem about 1800. Facing p. 126.

Severance, Frank H. *Historic figure-heads.* (In Buffalo Historical Society Publications. Buffalo, N.Y., 1921. v. 25, pp. 191-200.) Figure-head of Spanish transport Alfonso XII, destroyed 1898, illus. facing p. 192; Story of the Caroline (1820), p. 195-200; illustrations, figurehead of the Caroline facing p. 194. Other figureheads (not illustrated), Gen. Porter, Robert Fulton, p. 200.

Wood, Walter. *The battleship, being the story of the greatest naval weapon from the first ship-of-the-line to present-day Leviathans.* . . . . London, K. Paul, Trech, Trubner & Co., Ltd., 1912. 308 p. Figureheads. . . . . Protection, p. 147; gilt figureheads, p. 152; figureheads at Baltic Wharf, London, p. 207-208; a forgotten art, not carved from solid blocks of wood but built up bit by bit . . . . are now silent watchers of a London thoroughfare. . . . . Here Marks painted "Old Friends." . . . . Illustrations p. 207.

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Denig, Robert G., "Historic figureheads." Illustrated. *Cosmopolitan,* Apr., 1893, v. 14:689-696. Illustrations: From a model at U. S. Naval Academy, head built on the true stem, p. 689; At the Naval Academy, figurehead of the Macedonian originally French, captured by the English. In 1812 she fell in with the United States commanded by Decatur . . . . and became American, p. 691-692; Figurehead ship Columbus, U. S. ship Delaware, 1817, p. 693; Sovereign of the sea; of Constitution, of ship Franklin, p. 694.

"The figurehead and its story." *Scientific American,* Aug. 7, 1909, v. 101:92-93, 101, 102, 103. Figureheads of ancient vessels represented on old coin, literary references, p. 92; in England and France, p. 102; figurehead "Germania," on *Deutschland;* Japanese, chrysanthemum; Chinese, dragon, p. 103; U.S. figures of bronze on foremost turret between two bow guns. *Massachusetts* has Winged Victory, p. 103. Illustrations No. 7, Italian war galley; No. 9, *Temeraire;* No. 11, Dutch ship; No. 12, U. S. *Tecumseh;* No. 17, French *Brenus;* No. 18, "Germania" on the *Deutschland;* No. 22, bronze Victory on the U. S.S. *Massachusetts,* p. 93.

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"Reviving the figureheads." *Literary Digest,* May 19, 1917, v. 54; 1541-1542,3,4. Figurehead of the *Delaware;* the *Massachusetts* and the *Olympia;* in the British navy the *Iron Duke* carries a bust of Wellington, p. 1544.

Wasson, David A. "The silent pilots." *Outlook,* Jan. 27, 1915, v. 109; 206-213. The *Philadelphia* and *New York* were presentments of two actresses: Mary Anderson and Lily Langtry. The British-built *Oceana,* a figure of Aphrodite, *Mary B. Wellington,* only merchant vessel now wearing head of the olden time, p. 207; *Olympia* has Winged Victory, designed by Saint Gaudens ($12,000), p. 207-208; Order of Sec'y Meyer deprived warships of figureheads, discarded heads presented to cities or states for which ships were names; City of Bangor has that of the *Maine; Constitution's* figurehead history, p. 207-208; Collections; present-day use as ornaments; ship carvers' names; literary references; Tennyson's *Enoch Arden;* Bullen's *Cruise of the Cachalot;* Hawthorne's *Drowne's wooden image;* p. 207, 213. Illustrations, Figurehead of whaleship *Tamerlane* on house in Marblehead, Massachusetts; from a French prize in Boston Marine museum; *Western Bell's* figurehead, a garden decoration; *Falconer, Imperator* and *New York,* p. 206-213.

Watson, Edith S., "Figureheads of the old square-riggers"; photographs, with text by Victoria Hayward. *Century,* Aug. 1916, v. 92: 566-573. Illus. Figurehead photographed at Battle Harbor, Labrador, p. 567; Norwegian vessel in Newfoundland port, p. 568; Figurehead, *Metropolis; Honolulu, Mavila; Lalla Rookh; Mary T. Wellington,* p. 567-571.

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Wasson, D. A., "Silent pilots," illus. *Outlook*. Volume 109, pages 206-213. January 27, 1915.

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Our Weakest Link

(See page 267, March, 1927, PROCEEDINGS)

LIEUTENANT R. E. KRAUSE, U. S. NAVY. —Lieutenant Commander Gatch has done a great service to us in calling our attention to the fundamental relationship between our functionaries of state and our functionaries of war. It is indeed our "weakest link" and as such should receive the serious consideration of the Navy. History records innumerable instances of the disastrous effects of a lack of a working understanding between statesmen and military men. It is an especially vital point in this democratic age and country.

It seems to me that Lieutenant Commander Gatch made an unfortunate choice in citing the Rochefort expedition as an example of Pitt's system. His statement, "In the Rochefort expedition the civilian minister in control recognized and followed strategical principles; in the Gallipoli expedition the civilian minister ignored them," is certainly open to dispute. Pitt was a statesman unsurpassed in the understanding and effective direction of the naval power, but, so thoroughly did he demonstrate its tremendous value that the length and breadth of the British empire today bears witness, and never after would England allow this power to pass into hands of another nation.

The Rochefort expedition, as well as the subsequent successful attacks on the French coast, notably at St. Malo in 1758 and Belle Isle in 1761, belongs to the questionable part of Pitt's policy. It seems to me that the Rochefort expedition violated one of the fundamental principles of war—the concentration of effort. This venture was to serve a twofold purpose in Pitt's plan: (1) to compensate for the serious reverses to British arms and prestige by some vigorous enterprises and (2) to effect a diversion to the hard-pressed troops of Frederick and the Duke of Cumberland on the continent by drawing a part of the French forces to the defense and protection of their own coasts.

Lieutenant Commander Gatch has stated that "Rochefort was carefully limited to a raid"; yet we find that the expedition consisted of ten regiments of foot troops, and a naval force consisting of eighteen ships-of-the-line, besides frigates, fire ships, bomb-ketches, and transports. Certainly it was a formidable force, especially when we consider the size of the armies and navies in those days. Would not those ten regiments have been more valuable if they had been placed under Frederick on the Continent? Certainly the fleet was engaged on a side issue, when the great work of establishing British seapower and the British colonial empire had scarcely begun.

It is generally acknowledged by military critics that the strategic conception of the Gallipoli campaign was brilliant. It had a far grander purpose, as we all know, than the Rochefort expedition, and was not simply a measure to relieve the pressure put upon the Russians by the Turks.

In connection with Lieutenant Commander Gatch's treatise on Bismarck, there is a remarkable example demonstrating the difference in the viewpoint of the soldier and the statesman, which, I believe, should be mentioned. After the Battle of Königgrätz during the Austro-Prussian War of 1866, the Austrian troops fled from the battlefield in wild confusion. From the strategical point of view it was imperative to follow up the victory, to crush the remnants of Austria's armed forces and capture Vienna. There was no doubt of her ability to do so, and this is just what the Prussian general staff expected to do. But Bismarck's view extended beyond the immediate strategical situation. The war had served his policy and accomplished all that was required. On the same day of the battle he said to the King: "The question at issue is decided; what now is at stake is to regain the old friendship with Austria." He did not wish to humiliate Austria by making a triumphal entry into Vienna. Also it must be remembered that various German states, such as Bavaria, Saxony, and Hanover, were fighting on the side of Austria. It was against Prussia's policy to subjugate or dismember them.

Bismarck explains that "Our task was the establishment or initiation of a German national unity under the leadership of the King of Prussia."

His dream was the dominance of a united Germany, supported by a friendly Austria, in Mittel-Europa.

In line with his policy and in the logic of history, Bismarck foresaw a war with France. Victory over France must precede the establishment of the German kingdom. It was necessary to lay the ground for it. It was necessary first of all to stay the advance of the Prussian armies, and to consolidate the German confederation under Prussian dominance. Moltke promptly yielded to Bismarck's policy, but the King and the military set did so with great reluctance. Bismarck won out, and history has vindicated his judgment.

The suggestion that the Chief of Naval Operations should report to the President as his expert naval adviser is excellent. I would like to amplify a little on that. By our existing organization the President might get advice from three professional sources: the Chief of Naval Operations, the General Board, and the Joint Army and Navy Board. The Chief of Naval Operations is an ex-officio member of the General Board and certain members of the latter are on the Joint Board. There is therefore a certain interrelation, and coöperation is almost certain. Yet it seems a rather loose organization and the President may get advice inharmonious with plans and operations. It may happen that there is a variance of opinion, in which case the President will lose confidence. How can the Chief of Naval Operations rightly advise the President in matters where the various bureaus are concerned when he has not the power to coördinate their work? The President should have one source of technical naval information and that should be through the spokesman of a body representing the best service opinion—consolidated and united—covering all the functions of naval effort. Plans, material, and operations should be organized under one head. In short, we should have a General Staff, of which the present Chief of Naval Operations will be the Chief of Staff. We must have it. We must prepare it now while we have the opportunity and the leisure. Our present organization is based on the principle of coöperation and it works quite well under ordinary conditions, but in time of stress where prompt and effective action is requisite we would find it slow and cumbersome. The proposed organization would require only two major changes; one is making the Chiefs of Bureaus members of the General Staff and therefore placing them under the direction of the Chief of Staff. and the other is placing the General Board under the Chief of Staff and leaving that body to work out the broader phases of naval policy.

Another point which should be amplified is the fact that history teaches us that so many military leaders have been seriously lacking in vision. At the outbreak of a war, military forces of a nation all at once find their field extended many times. Out of a blissful slumber they find themselves facing a great crisis. This was plainly perceptible in the two greatest military organizations of the world in 1914.

Both the German generals and the British admirals showed a surprising lack of knowledge of the numerous elements of war outside of their own familiar sphere and in addition the latter plainly had not prepared themselves sufficiently in the technique of high command. Peacetime naval life breeds shortsightedness. We see phases of this in our daily life. What captain on his inspections does not meticulously inspect a messcook's knives and forks, and how often are the machinery spaces not even entered? It narrows one, not comparatively to men in other walks of life, but relatively to the great problems which we would have to face when plunged into war. Our imaginations are fettered by routine and detail. Most of us have our work laid out for us and if this is done as thoroughly as expected there is little time to spare. We are interested in our jobs and want our battery and our ship to stand first. This is a healthy spirit, but who is fostering our development in the great field that lies beyond our battery and our boilers and main engines? Is the gunnery officer interested when his battery officer studies history? Is the chief engineer interested when his subordinate officers study international affairs? Is the captain sympathetic? The reward for gunnery effort is the gunnery trophy and a letter of commendation; similarly for engineering work; but what recognition does the officer receive who strives to prepare himself for

the great tasks which he and the Navy may some day face?

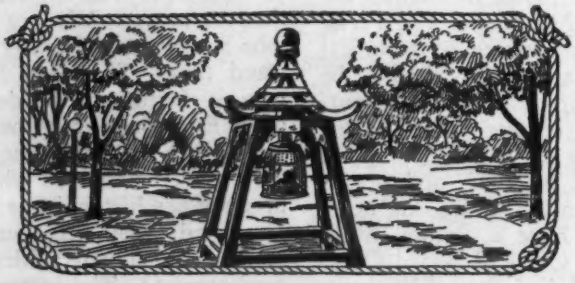
It is this narrowness of view which permitted Pitt, Lincoln, and Bismarck to step in and direct the conduct of war. It is something which we should continually strive against. The great naval leaders of history were men of large general information, students of history, and international affairs—Rodney, Nelson, and Farragut are a few of the numerous examples. Mahan said, "Every naval officer should order his study and his attention to contemporary events, abroad and at home, by the reflection that he may some day be an adviser of the Government, and in any case may beneficially affect events by his correct judgment of world-wide conditions." In Nelson's phrase, "An officer should have political courage. Political courage, to be well based, requires political knowledge as well." Or, as Admiral H. S. Knapp put it, "From every point of view it is the duty of naval officers to be well informed about foreign nations, and the broader that information and the opinion founded upon it the better able to serve their country in their chosen profession they will be."

Every officer should strive to attain this breadth of view early in his career. We are apt to look at these great problems and say, "Oh, those are things for the admirals to worry about." But the men in high command pass along and the responsibility passes to us and we are not ready for it.

We take great pains to develop specialists in ordance, engineering, communications, and law. What are we doing to develop experts in international affairs? True, our officers study international law and receive lectures on policy, diplomacy, and international affairs at the Naval War College, but after all it is only a smattering that they get of this great field. The Naval War College does not teach history and yet this is the ground work upon which our policy and international affairs must be based. It is not rightly the function of the Naval War College to develop such specialists. It has a wide field to cover as it is.

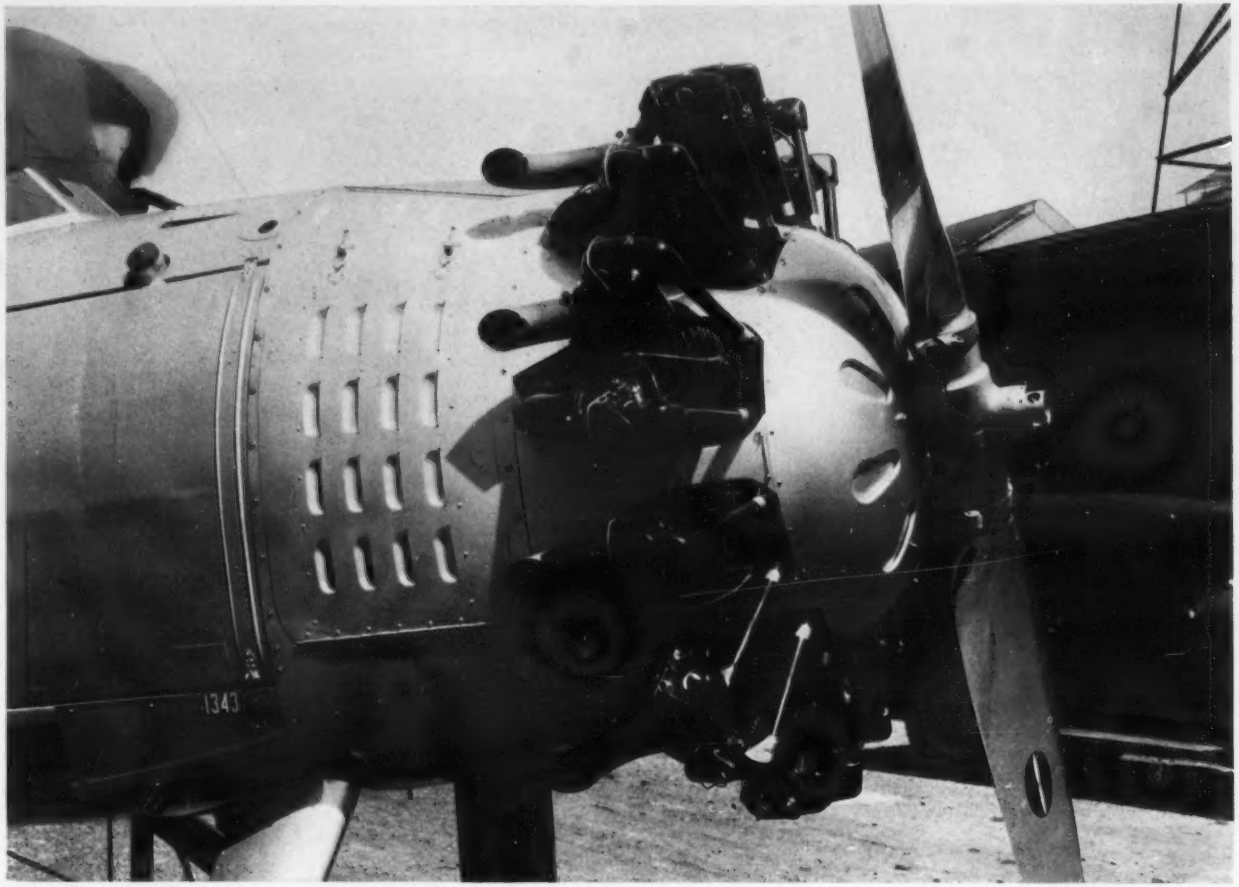
There is an important field for such specialists, in peace as well as in war, on the General Board, the Naval War College, the Naval Academy, the large staffs afloat, and the foreign embassies. In the great crisis of 1914, one of our ambassadors to a great allied power characterized our naval attaché as a "good fellow." In other words he conveyed the impression that he was not of much help in this international crisis. We should see that they are something more than "good fellows."

The best prophet of the future is the history of the past. The lessons for us in regard to this influence of civilians on the conduct of war are as clear as they are important. Shall we profit by them now, or must we wait for the next war to indelibly impress them on our minds?



Courtesy of the Chance Vought Corporation

VOUGHT "CORSAIRS" AT MITCHELL FIELD, LONG ISLAND



Courtesy of the Chance Vought Corporation

VOUGHT "CORSAIR" NOSE

Showing ingenious engine cowl shutter for regulating the air-cooled blast on cylinders and crankcase of the Pratt and Whitney "Wasp" engine.

Showing ingenious engine cowl shutter for regulating the air-cooled blast on cylinders and crankcase of the Pratt and Whitney "Wasp" engine.

PROFESSIONAL NOTES

24 AUGUST TO 1 OCTOBER

COMPILED BY
COMMANDER F. W. ROCKWELL, U. S. NAVY
AND
ASSISTANT PROFESSOR HENRY BLUESTONE, U. S. NAVAL ACADEMY

GENERAL ARRANGEMENT

GREAT BRITAIN
The Size of Battleships 1218
Cruiser Values 1219

JAPAN
Collisions During Night Maneuvers 1221
New Plane Carrier to Join Maneuvers 1221
Structural Weakness In Cruisers 1222

FRANCE
Utilization of the Merchant Marine in War 1222

AVIATION
Air Transportation's Growth 1224
New Army Air Bomber 1225
Production of Naval Planes 1226
Charting the Upper Air 1226

ENGINEERING
Atomic Hydrogen Welding 1227
Liquid Fuel from Coal 1228
Economy of Turbines vs. Diesel Engines 1230

RADIO
Radio and the Airman 1230
America Adopts Beam Radiocasting 1232

MISCELLANEOUS
Artillery Questions In Foreign Navies 1232
Hegemony In the Baltic 1233
New Construction Program for Italy 1233
Spain and Argentine Republic 1233
Italy—Budget for 1927-1928 1234

CURRENT ARTICLES AND BOOKS 1234

GREAT BRITAIN

The Size of Battleships

Naval and Military Record, August 31.—The proposal put forward at Geneva on behalf of the British Admiralty to restrict the size of all battleships to be constructed in future to 25,000 tons has naturally occasioned a good deal of hard thinking in the Navy. That the suggestion is the result of well considered conclusions there can be no question, for the battleship is essentially the one unit which must embody full measure of aggressive and defensive powers. You cannot compromise in the capital ship as you can in the cruiser. The only question is what represents full measure of aggressive and defensive powers. The specialists will probably be opposed to any reaction in the matter of displacement. They want the biggest and the most of everything that pertains to their branch. The specialists are generally described as the "material school," presumably because they believe that it is the machine which counts before all else, and that the further the machine is developed the more still will it count. Within limits this is true. But when those limits are exceeded we get into the domain of surplus energy and wasted effort. It would appear as though the Admiralty are now of opinion that our post-war capital ships go beyond the maximum of requirements as fighting machines.

In this view the tactical school is likely to concur. It asks for weapons adequate to the performance of what will be demanded of them, but nothing more. It regards these weapons as the means to an end which has to be achieved by the human element, not as the end itself. The "sea horse," who is not a specialist and therefore able to take a detached view of the relative value of modern complications, is generally in favor of simplification. He commonly adheres to the view that the effective gun and the adequate gun platform is what really counts in battle. A battleship may, or may not, get an opportunity in action to discharge one or more of her torpedoes. But in any case she depends upon her turret guns. Only in the event of these all being knocked out might the torpedo prove a *dernier ressort*, and it is reasonable to suppose that a battleship which has had all her gun-power destroyed will not be in much condition for accurately ranging torpedoes. Ask the tactician which he would prefer, another heavy gun and no torpedo tubes, or one gun less and half a dozen torpedo tubes, and it is pretty certain that he will plump for the extra gun.

Controversial Points

The material school are finding a strong argument in the statement of Mr. Hugh Gibson that when the Washington Agreement expires the United States will probably find it necessary to build battleships bigger than 35,000 tons in order to embody all the technical features of modern development. It is not difficult to demonstrate that in order to embrace the "last word" in everything a battleship must have a displacement of about 50,000 tons. Plans for such a battleship were actually in progress at the time of the Washington Conference. It is equally easy to demonstrate that if two nations, unfettered by international agreements, build 50,000-ton battleships, each will want to go one better in the next ships laid down. And so the competition would go on, with nothing save the question of cost ever to stop it. But the Admiralty are clearly of opinion that the "super" business has been overdone in capital ship design, and that the very principles of naval warfare are being thrown out of focus by the progressive exaggeration of weapons. The first point to which we must return is to ask ourselves precisely what we want any particular type of warship, big or small, to do. The stereotyped answer, in the case of the battleship, is "to beat the enemy." This answer would be excellent if it were practicable to presuppose the enemy is willing to conform to the process of being beaten on a sort of grand tourney plan.

But the "decisive fleet action" has always existed very much more in fiction than in fact. It is doubtful whether our history could furnish half a dozen examples of naval battles which really justify the application of the word "decisive." The Great War certainly suggested that possession of a battle fleet which, by virtue of its all-around superiority, was able to fight a decisive action proved the very means of preventing any attempt at such a decision. No enemy who is able to deny action is going to join battle with greatly superior strength. This, of course, amounts to an argument in favor of greatly superior strength. But it is an argument with a

qualifying factor. If the essence of war is activity, the principle of producing passivity would appear to be rather a negative one. It entails the dedication of a major naval strength to stalemate, and leaving it to other factors to get on with the war. This, we take it, is the situation which the super-doctrine in naval construction tends to produce. It is true that discussion upon modern ship values is apt to be colored by the experiences of the Great War, and that the strategical conditions which then prevailed were distinctly adverse to any active employment of capital ships. In effect, the Grand Fleet at Scapa and Rosyth were exercising an open blockade, within which the High Seas Fleet was contained.

First Principles

But the point which really matters in this connection is that, with full knowledge and perception of all that took place during the Great War before them, the Admiralty have apparently come to the conclusion that a capital ship of 25,000 tons is big enough to fulfil all the functions of her rôle. To be sure, the assumption premises that the other great naval powers will be willing to restrict their future capital ships to the same size. But suppose this should not prove to be the case, might we not still adhere to this idea without in any way jeopardizing our position? The modern battleship is unduly complicated. If we got rid of all complications and returned to first principles, might we not build a battleship of 25,000 tons which would have every reasonable prospect of holding her own in battle against anything she might be called upon to meet? Those first principles are summed up in guns and armor. It must be remembered that the multiplying of factors in the hyper-supership is largely a relative matter. In the matter of weight the big ship figuratively makes the meat she feeds upon. A 50,000-ton battleship will demand twice the burden of armor of a 25,000-ton battleship, but it does not follow that she will be any more effectively protected; merely that there is so much more of her to protect.

The real determining point is the size of the gun. We have now got to a 16-inch weapon. It can shoot further and do more smashing than a 15-inch gun. A 20-inch gun would be better still by the same token. But there must be a limit, and a good many naval men are inclined to think that the 13.5-inch gun is big enough for anything, and that what a battleship cannot do with a projectile of 1,250 pounds she is not very likely to accomplish with a projectile of 2,250 pounds. Sufficiency should be the governing maxim, not superfluity. The Germans found their 11-inch and 12-inch guns quite effective enough at Jutland. It was not artillery inferiority but numerical inferiority which inspired Sheer to break off action on finding he was in the thick of the Grand Fleet. If we can only determine that a 13.5-inch or a 14-inch, or even a 15-inch gun represents the maximum of utility and that all beyond this is largely spectacular then we get a definite basis for tonnage limitation in capital ships. The *Royal Sovereigns* mount eight 15-inch guns and carry 13-inch armor on 25,750 tons. Get rid of their torpedo equipment as being supererogatory to a battleship, and it would be practicable to reduce them to 25,000 tons. Sacrifice three knots' speed to a wider sea-keeping radius, and in our humble opinion the results would be the ideal battleship for the British Navy. Let the United States produce the 50,000-ton capital ship if she pleases. We shall then be justified in asking ourselves whether such a monster is really superior in combatant value to two 25,000-ton battleships.

Cruiser Values

Navy and Military Record, August 24.—The modern differentiation of cruiser values is not altogether easy to follow. Apparently a vessel armed with 8-inch guns is regarded as a fighting ship; a vessel armed with 6-inch guns, as a defensive or trade protective ship. This distinction apparently rests upon the assumption that the cruiser with 8-inch guns would work with the main fleet. But what would be her rôle with the main fleet? Manifestly she cannot butt in upon a battle between capital ships. Is she designed to run a sort of secondary show whilst the main action is in progress? If not, then what is she designed for? The fact is we seem to have got into rather a muddle in our cruiser conceptions. The mere name is quite a modern one for indicating a specific type. Originally it was applied to any warship detached for special duties which kept her at sea. Frigates were commonly employed for this work as being best adapted to it. Chiefly it took the form

of watching or reconnoitering, hence the frigate came to be known as the "eyes of the Fleet." The steam cruiser was the natural successor to the sailing frigate. She was intended to carry on the multifarious functions quite outside of the limited purpose filled by the ship-of-the-line. She continued to serve with the battle Fleet just as the frigate had done.

In the earlier days of the cruiser it was easier to define her Fleet functions. There were neither destroyers nor submarines to worry about, and her job went very little beyond reconnaissance work. Outside of Fleet work there is no limit to the duties of the cruiser. Her development may be traced to her independent functions very much more than to her Fleet functions. Speed is of more service than armament in reconnaissance. When the little *Southhampton* sighted the High Seas Fleet at Jutland she had done all that was asked of her. There was no question of her fighting anything in connection with this duty, unless, of course, she were attacked. But it is the business of a reconnaissance vessel to avoid being attacked, if possible. There will be plenty of ships on both sides to do the fighting. Her job is to gather and transmit all the intelligence possible. In this capacity we fail to see that it matters whether she carries a 6-inch gun or an 8-inch gun. In neither case could she do anything against a main Fleet. If the smaller gun was accompanied by a higher mobility she would probably be better off as a reconnoitering ship. Only in the event of an 8-inch-gun cruiser getting a chance to attack a 6-inch-gun enemy cruiser would the heavier armament justify itself in a Fleet unit, and the smaller cruiser would take care to keep under cover of her capital ships if she found herself singled out as the object of such an unequal duel.

Confused Differentiation

To say that an 8-inch-gun cruiser is much superior to a 6-inch-gun cruiser for all-around work is to make an obviously unanswerable statement. But to say that the 8-inch-gun cruiser is not necessary to all-around work, and that she is only designed to act with the Fleet, appears to us to show confusion of perception. When the late Lord Fisher wanted a type of cruiser to act with the Fleet he made up his mind that nothing short of a capital ship would serve the purpose. And so the battle cruiser replaced the armored types of the *Warrior* and *Defence* groups. This was logical if the phrase "to act with the Fleet" was to mean anything at all beyond reconnaissance work, for which the small, fast, protected class had been deemed quite adequate. But with this idea of "acting with the Fleet" the much wider functions of the cruiser appear to have been forgotten. For some years after the advent of the three *Invincibles* no cruisers proper were built at all. It is true we then had so many vessels of mixed sorts and sizes in hand that we could afford to live upon our capital for awhile. Lord Fisher always thought in terms of the biggest ships and the biggest guns. To him the line-of-battle was the thing that mattered. Trade protection and convoy were quite secondary to "acting with the Fleet."

The Great War brought an effective restoration of proper perspective. The value of the all-around work of the cruiser was demonstrated to a degree which had scarcely been foreseen. Her opportunities for "acting with the Fleet," beyond lying with it behind boom defenses, or accompanying it on its periodical "sweeps," were virtually nil. Had she not been relegated to acting with the Fleet, and set free for all-around duties as requisite, she would have performed infinitely more useful service. But this, of course, was out of the question. At the time of Jutland there was no aërial reconnaissance worth talking about. Now this has developed to a stage which seems to neutralize the value of the reconnoitering ship. Every fleet will have its attendant aircraft-carrier, and the airplanes launched from these have a speed and an area of vision which puts them beyond all comparison with a surface vessel for carrying out observation. Bearing this in mind, it appears that the utility of cruisers for fleet work is distinctly less than it was. Admit that the old "crinoline squadron" is no longer necessary for the functions which brought it into existence, what remains for it to do?

All Fighting Ships

One answer we may anticipate is that in a fleet action it is the duty of the cruisers to protect battleships against destroyer attacks. Is it? Why should not the destroyer fight the destroyer? And are 8-inch

guns necessary as anti-torpedo weapons? In justice to the British Admiralty it is evident they do not favor the 8-inch gun for cruiser armament, but have been committed to it by the Washington Agreement. With the exception of the *Hawkins* class, designed during the war as a response to reported German plans, all our modern cruisers carry 6-inch guns. To exaggerate types by developing them beyond the needs of their legitimate functions is to introduce obscurity into tactical principles. To the suggestion that the 8-inch-gun cruiser is an attacking ship, and the 6-inch-gun cruiser a defending ship we certainly demur. All armed warships are fighting ships, and fighting means attacking. Let us not be misunderstood as arguing that the 8-inch gun is not greatly superior to the 6-inch gun. It throws a shell two and a half times the weight. But if the cruiser is only intended to fight the cruiser, why this sledge hammer principle? And if she is intended to fight anything more formidable than the cruiser, an 8-inch gun is not heavy enough.

In fact, what is the 8-inch gun cruiser intended for? As a cruiser she is too big and too powerful. The cruiser is the one type of craft in which numbers count. She garrisons overseas frontiers and protects trade. You cannot have numbers if you insist on size, and it was on this sound premise that we knocked the bottom out of the Geneva Conference. If size is insisted upon, let us at any rate know what for. As far as we can see in the modern application, it is simply to be devoted to carrying much heavier guns. We have been through all this before. The *Powerfuls* were imposing vessels to look at, but it soon became clear that they were little more than huge and costly targets. So we dropped from the 14,200 tons of their design to the 11,000 tons of the *Europa* class which followed them. Then we dropped again to the 9,600 tons of the *Monmouth* design. After this the "Fleet work" idea seemed to take charge, and we were carried away into great armored classes, culminating in the battle cruiser. No doubt, competition was the chief factor of that era. But there was no competition at Washington when the eight-inch gun and 10,000 tons displacement were decided upon as a maximum, which the idea of "parity" keeps as a minimum.

JAPAN

Collisions During Night Maneuvers

The Japan Advertiser, August 26.—One hundred and twenty-nine lives were lost, the destroyer *Warabi* was sent to the bottom of the sea, and another destroyer and two cruisers were seriously damaged at 11:20 P.M., Wednesday, when war practice off Mihonoseki developed into a battle in the confusing darkness of a smoke screen on a moonless night.

The cruisers were attempting to stage a torpedo raid when the two destroyers piled into them, according to the Naval Minister. The *Warabi* first tried to penetrate the smoke screen which was laid so thickly that the first warning of the crash was the reverberating thud of the vessel's impact against the light cruiser *Jintsu.*

Within fifteen minutes the waves had entirely covered the *Warabi* and the task of searching for the officers and crew in the darkness was virtually hopeless. Twelve officers and ninety out of 112 petty officers and seamen who were aboard the *Warabi* are missing and virtually certain to have perished. They include Lieutenant Commander Igarashi who went down with his ship.

Meanwhile the destroyer *Ashi* had collided with the cruiser *Naka,* on which Prince Hiroyoshi Fushimi was a passenger. He was uninjured, however, although twenty-seven petty officers and seamen on the *Ashi* lost their lives.

New Plane Carrier to Join Maneuvers

The Japan Advertiser, August 30.—The grand naval maneuvers are scheduled to start in October under direct Imperial supervision. The new naval airplane carrier *Akagi,* 26,900 tons, which was fully equipped last spring and was included in the list of craft on August 1 will participate as the newest and most formidable airplane carrier in the Japanese navy.

The activity of the *Akagi* in the coming maneuvers is expected to arouse considerable interest because of the belief that efficient service by an airplane carrier would determine to a great extent the fortune of battle in actual warfare.

Since the beginning of this month, the *Akagi* has been operating off the coast of Amani Oshima and Tateyama, with naval planes alighting and leaving their mother

ship. The airplane carrier left the Yokosuka naval station for Maizuru yesterday to prepare for the coming event.

The construction and equipment of the airplane carrier are naval secrets. The painstaking care with which the secrets are being guarded is shown by a report that minor officers of the vessel are not permitted to enter the flying deck which is provided with a special arrangement. The *Akagi* has three flying decks, one on top of the other, while the British carrier has two and the American one. Three funnels and a short mast are situated on the starboard. The vessel is capable of developing twenty-eight knots. The airplane rescuers attached to the *Akagi* are of British model with a remarkable speed.

The commander of the airplane carrier is Captain Ryotaro Umitsu, formerly the commander of the *Hosho,* also an airplane carrier.

Structural Weakness in Cruisers

Revue Maritime, August.—It has been confirmed that, as stated (see *Revue Maritime* for March, 1927, p. 392), the *Furutaka,* a cruiser of 7,000 tons, is rather frail in construction and that deformities are produced in the bottoms of the ship when she sails in heavy seas. These deformities are due to defective longitudinal strengthening. In December last, the press reported that, in consequence of a trip in bad weather, the *Furutaka* had labored much and was obliged to be docked for examination of the riveting of the hull. Similar damages resulted recently. Consequently the Admiralty has just decided to modify the construction of the two sister cruisers that have not yet been completed—the *Aoba* and the *Kinugasa.*

FRANCE

Utilization of the Merchant Marine in War

Le Yacht, August 20.—During the last war, the merchant marine made a tremendous effort that had not been foreseen. Not only the extent and duration of the conflict gave maritime transportation an importance not suspected until then, but merchant ships found themselves constantly exposed to repeated attacks in a manner unprecedented in warfare. The will of Germany modified, so far as ships are concerned, the application of the principles of maritime law; accordingly, all allied nations found themselves obliged to proceed to the reorganization of their merchant marines that were threatened with destruction.

The preparation of the merchant fleet for national service had been limited by us as by England to arming a certain number of fast ships as auxiliary cruisers and requisitioning some units of small tonnage either for policing ports or for dragging the channels leading into them.

In the wars of the eighteenth century, in the days of privateers, merchant ships, which of course differed little from naval ships, were often provided with armament similar to, and at times just as important as, that of the navy ships. No such measures had been taken in 1914, both because the Treaty of Paris had abolished privateering sixty years before, and because of the fundamental differences which in modern navies distinguish navy ships from such as are constructed for commerce. But the use made by Germany of her submarines obliged the allies to provide their merchant ships with a thorough defensive organization, the aim being both the security of the personnel and the protection of the material which circumstances rendered precious.

After some time, the combined effort made it possible to make up for the deficiency realized at the beginning of the conflict, but the measures taken under pressure of necessity did not yield the results that a plan carefully prepared and matured in peace time would have brought.

Accordingly, there were considerable losses. More than that, the protection of the maritime highways, the defense of merchant ships, the operations of submarines and the dragging of mine fields obliged us to transform many merchant ships into naval ships and to charge this auxiliary fleet with an important part of the naval operations.

The arrangements made during the war must be revised and completed. The utilization of maritime units in time of war must be preceded by an actual mobilization, which could not be effected rapidly and methodically unless previously prepared in all its details. Such preparation involves a series of measures of which some must be taken in time of peace and others must be enacted at the time of mobilization.

This forms the basis of a bill presented

to the Chamber of Deputies by the Minister of the Marine, Public Works, Colonies and Finance. We shall analyze its main provisions.

In the first place we must classify the ships of the merchant marine. The utilization of each is based on its particular characteristics, which enable the naval authorities to decide whether it is adapted to the organization of a defensive equipment sufficient to protect it against enemy attacks and, consequently, to form part of the merchant marine war fleet, or whether it is fit to be incorporated in the auxiliary fleet, or to take an effective part in the operations, or to form part of the military trains of the naval forces.

It is for the Minister of the Marine to decide, in accord with the Minister in charge of the merchant marine, upon the defensive organization of each type of ship.

The work of fitting out necessitated by the defensive organization on merchant marine ships will constitute a burden for the owners, but that burden will be found in practice very light.

All the military material will really be furnished by the navy and installed at its expense at the time of mobilization. The preparation of the defensive organization will hardly require anything but the existence of free spaces or spaces that can be made free for the mounting of the material. It is in order to avoid the necessity of subsequent modifications that it seems advisable to provide for such spaces at the time of construction of the ships.

This service, which is rather light, must be considered as a duty toward national defense, as an insurance premium paid by the owners of the ships in order to reduce, in every way possible, the danger of loss of material which becomes precious in time of war. The branch to which such units will belong in time of war will be called upon to defend its views before a Superior Commission of Maritime Transportation.

The fitting out of ships intended for the auxiliary fleet may necessitate more important work. However, the composition of such fleet will depend on the needs of the navy, and as its composition will reduce the expenditures of the navy, the latter will have to defray the expenses caused by the work of adapting them to their special rôle.

In order to diminish the period of inactivity of ships at the outbreak of hostilities the bill provides that the preparations for the wartime installations should be made on all ships in time of peace to the full extent allowed by commercial needs and international agreements.

Such preparations will necessitate an understanding between ship owners and the navy. Agreements of this nature will require the assent of the Minister having jurisdiction over the merchant marine in the case of ships subsidized by the government. The Minister of the Marine is to have the right of supervising the measures adopted for mobilization and of imposing penalties, when necessary, if the measures of security considered indispensable are not taken in conformity with the conditions provided by the agreements made with the owners.

The measures to be taken at the time of mobilization have for their objects: the completion of the defensive organization of each unit and the installation of the military material; the application of the regulations in force in war time for the protection of persons, material, and cargo against enemy attacks; the formation of the auxiliary fleet and of the commercial fleet of war time, on the basis of the classification made by the Minister of the Marine in time of peace.

As to the auxiliary fleet, the contracts made with the view to provide for services subsidized by the government must take into account so far as possible the needs of the navy. Accordingly, it is logical that the navy should be represented on the committees charged with preparing such contracts.

The special rôle to be played by ships of the auxiliary fleet requires a more complete organization than on other ships, although remaining within the limits fixed by international agreements, and it is indispensable that the navy should be informed in case any such ship becomes unavailable for some time owing to need of repairs.

Such are the main features of the bill, which has been examined by competent authorities of both the navy and the merchant marine and to which ship owners, being duly consulted, have raised no objection in principle.

However, when this bill came up before the Navy Committee of the Chamber of Deputies, the latter thought it proper to

reserve action subject to further examination, in view of the provisions of Article XIV of the naval treaties of Washington, which are as follows:

"No preparatory installations shall be made on merchant ships in time of peace with the view to convert them into ships of war. However, decks may be reinforced so as to allow of the mounting of guns not exceeding the caliber of six inches (152 mm.)."

The very text of this article indicates clearly that provisions may be made by all nations for the use of merchant ships in war time. The only exact meaning that can be given to this article is that the armament must not be embarked in time of peace which it was never the intention of the Ministry of the Navy to do. The agreements of Washington do not contain any provision against previous classification of ships according to the service to which they are adapted nor against the preparation of the material to be put aboard, when necessity arises, for their defense.

There is no doubt that in case of another war, merchant ships will have to play as important a rôle as in the last. Nor is there any doubt that they would be exposed to attacks, though we may hope never again to see the horrors of German submarine war. It is therefore logical and even necessary to envisage in time of peace problems which there may be no time to solve after the outbreak of hostilities. That is why it is desirable that the bill analyzed above, if not adopted in its present form, should be examined with due care and adopted in its essential features.

AVIATION

Air Transportation's Growth

Christian Science Monitor, September 24.—That aviation is fast becoming a popular means of transportation may be seen from a study of the figures which the Commerce Department of the United States has just made public. This is the first time that a survey has been made of the Nation's civil airways, and the statistics as compiled will no doubt surprise a vast majority of the citizens of the country. These figures do not include any of the flying done in machines owned privately or by manufacturers, or in such machines as were used in contests. When the many miles covered by such machines are added to those as given out in the survey, the total mileage becomes even more astonishing.

According to the figures referred to, no less than 12,877,933 miles were flown and 395,646 passengers carried, during the first six months of the current year. At this rate it will mean that more than three-quarters of a million passengers will be carried during the calendar year of 1927 and no less than 25,755,866 miles be flown during the same period. An analysis of the figures also shows that airway operators flew 2,642,364 miles and carried 1,819 passengers on schedule, while miscellaneous flying accounted for 362,249 miles and the carrying of 8,305 passengers. The balance of the mileage recorded was in taxi, express, sight-seeing and miscellaneous air operations.

While there is still much to be done in regard to aviation before it becomes a common means of transportation, developments which have taken place during the past year have done much to increase its commercial value. Adverse conditions of the weather appear to be the most serious obstacle now left to combat; but progress has been and is still being made in overcoming such conditions, with every prospect of eventual success.

With this increase in aviation, the question of regulation is going to demand considerable attention. Federal laws have been enacted, and a few of the states in the Union have aviation laws on their statute books; but the handling of air traffic would seem to present a far different question from the handling of any other mode of traffic, since much of it will be of an interstate nature, no land being touched in some of the states over which the flying is done. Such flying as is done within the confines of one state can no doubt be handled easily by the state officials; but state officials would seem to have little authority over flying machines which cross state boundaries without alighting. Infractions of the laws of these states by such machines would seem to be a subject for federal handling only, or for handling by the authorities of the states in which they started or landed. With this the case, it would seem to be necessary for officials of the various states and the federal authorities to get together and work out regulations which will satis-

factorily serve the fliers as well as the general public, and at the rate of growth which aviation is now showing, the regulations will soon be greatly needed.

New Army Air Bomber

New York *Times*, September 11.—Within the next few days the *Super-Cyclops*, a mighty dreadnaught of the air, will take off from Keystone Field, Bristol, Pennsylvania, on her first long-distance flight, bound for the army airport at Dayton, Ohio. Lieutenant Frank P. Tyndall, the army's representative at the plant of the Keystone Aircraft Corporation, where the plane was built, has made three test flights and is satisfied with the ship's performance. He was in the air for twenty minutes during each of the first two flights following the ground tests, and then on his third trip, accompanied only by a mechanic, flew for sixty-five minutes, achieving a speed of more than 120 miles an hour.

"The plane took off in less than 100 yards," said Lieutenant Tyndall. "This is an unusually good performance, even though the plane did not carry her full military load of bombs and men. Considering her size, the *Super-Cyclops* shows that a great advance has been made in the maneuverability of huge planes.

"The *Super-Cyclops* will mount six machine guns, three gunners operating them in pairs. There will be no blind spots on this plane. Above, below, in front and behind there is everywhere a point where any enemy can be met by the cross-fire of at least two of the gunners."

One gunner is stationed just forward of the pilot. The other two are abaft the twin motors on either side of the fuselage. The blind spot in the bombers has always been the tail; small, fast enemy pursuit planes, shooting from a protected position at the tail, have been able to harry the slower bombers without great danger to themselves. But as the gunners on the rear of the *Super-Cyclops* wing are on opposite sides of the tail and can swing their machine guns through a complete circle, a cross-fire of four machine guns can be trained upon an enemy aircraft approaching from any point in the rear.

These wing gunners cannot fire forward through the propellers, as movable guns are not synchronized with the whirling of the blade, but the gunner in the nose is expected to fight off any direct frontal attacks by himself.

The fully loaded plane carrying five men and 2,700 pounds of bombs will weigh 16,500 pounds when it rises from the ground. The bombing expert sits alongside the pilot and the control stick is hinged so that if the pilot is injured or tired his mate in the cockpit can guide without moving from his seat.

The bomb rack is so arranged that it can carry any variety of sizes from one ton down to 100 pounds. A bomb weighing one ton is powerful enough to wreck a small town. When the ship is over its objective the sharpshooter kicks back a grating underfoot and steps down to a platform four feet below. Underneath and in front are windows. When his sighting instruments gives him a bead on the spot he is hunting the pull of a lever drops one or more bombs.

While foreign powers are known to have freak planes larger or more powerful in some respects than the *Super-Cyclops*, she represents, authorities believe, the last word in standard construction. She has a cruising radius of 1,000 miles, making possible a cruise to an objective 500 miles away.

Gasoline tanks holding 600 gallons of fuel are located in the center sections of the upper and lower wings of the biplane.

The ship was designed by C. Talbot Porter around two twelve-cylinder 550-horsepower Packard engines supported by the Army.

Twin-engined planes usually seat the pilot behind the motor, although at night the glow from the exhaust dazzles the flier and makes it difficult for him to clearly view his surroundings. Such motor placement, however, is advantageous in a crash, because the engines then receive the impact of the collision if the plane dives forward. In the *Super-Cyclops*, however, the nose of the fuselage has been set well forward of the motors, so that the three men in the fuselage will not be bothered by exhaust gas glare.

The *Super-Cyclops* is an all-metal plane, but the wings are covered with canvas. The frame is composed of special alloys of steel and aluminum. Instead of wooden spars or eye-beams, the ship is braced with tubular steel, a departure in airplane construction.

The wing spread is eighty-five feet and a man of average height can stand under the front of the wing without touching it. Without a load the *Super-Cyclops* weighs only four tons and can be turned on the field within her own radius. She is expected to fly at a 15,000 feet altitude as against 8,000 for her predecessors. This will make for safety against anti-aircraft fire and pursuit planes.

Production of Naval Planes

New York *Times*, September 10.—Captain Emory S. Land, Assistant Chief of the Bureau of Aëronautics, in a summary just completed of the navy's progress in developing aircraft, asserted today that "if a national emergency were declared today naval aviation would be in a position to place its orders immediately for the types best suited to the service."

Commenting on the progress of naval aviation under the five-year expansion program, Captain Land stated that although this progress has not been spectacular, it has been "an orderly one, a progressive one, an efficient one, and an economic one."

Naval aviation, he added, "can and does point with pride to the types of planes developed during the last fiscal year and now in production. Experimental units of each type are in service. This refers particularly to its training plane, to its two battleship fighters, to its observation plane, to its patrol plane and to its bombing plane."

A great deal of concentrated effort and study have been put on the question of safety, Captain Land said, adding that "this is a problem that will always be with us and is not capable of any ready-made solution."

He stated that as a result of extensive flight competition tests, training, battleship fighting and observation, planes had been developed which are believed to be the equal, if not the superior, of any other planes of their type in the world.

One of the greatest developments, of which the Bureau of Aëronautics is particularly proud, Captain Land stated, is the "very important and vital part played by naval aviation in the development of air-cooled engines." He pointed out that air-cooled engines were used in all of the successful transoceanic flights.

The officer recounted the achievements of the Naval Bureau of Aëronautics in developing other accessories to aircraft that have been far reaching in increasing the safety of aviation.

Charting the Upper Air

New York *Times*, September 2.—Mr. Andrew Thomson, director of the Apia Observatory, Western Samoa, who will represent New Zealand at the International Congress of Geodesy and Geo-Physics at Prague, this month, is at present in London. Describing some of the work which has been done at the Observatory, he said that in the South Pacific between Australia and South America there was a large area of ocean where, except at Samoa, little had yet been done to investigate the currents of the upper air. Observations of this kind were important in the interests of aërial flight between Australia and New Zealand and Honolulu or South America. So far, no airplane has succeeded in flying from Honolulu to Australia.

At the Apia Observatory the work of investigating the upper air had now been going on for four years and considerable progress had been made in adding to the knowledge of the air currents. The observations were made by sending balloons into the upper air and following the course which they took. In this way a knowledge had been obtained of currents up to a height of nine miles. It appeared that while the south-east trade winds were blowing below, strong and rapid winds were blowing above the altitude of 12,000 feet in the opposite direction. To get complete information about the currents it was considered that the number of stations at which observations could be taken ought to be increased to four or five. For an area as big as Europe there was at present only the one center at Apia.

Careful records were made of variations of humidity and temperature. Samoa was singularly free from local disturbances and supplied indications of conditions prevailing over a large area. It has been recently shown by Sir Gilbert Walker that when the height of the Nile flood was above the average the temperature at Samoa during the following six months was below the normal.

In the last five years arrangements for wireless weather reports had been made at twelve stations in the South Pacific, with

Apia as the center. The information from these stations was collated at Apia, and the result broadcast twice a day for the benefit of ships whose course lay through the area. Part of the work of the observatory consisted in making seismological observations. It occupied an important position for this purpose, being situated near a part of the earth's crust which was a frequent starting-point for earthquake shocks recorded at a later stage at stations in other parts of the world. The New Zealand Government bore the greater part of the cost of the Apia Observatory, contributing £2,000 annually, while the British Admiralty contributed £400 and the Carnegie Institution £250.

ENGINEERING

Atomic Hydrogen Welding

Engineers and Engineering, August.—Atomic hydrogen welding—the process by means of which hitherto unwelded metals can be melted and fused without the slightest trace of oxidation, and welding can be performed in some cases on metals as thin as the paper on which this is printed—is now made practicable by the use of equipment recently placed on the market. This process, making possible the welding of many special alloys and the production of ductile welds in iron and steel, is the result of research conducted by Dr. Irving Langmuir, of the General Electric research laboratory.

In brief, this method utilizes the passage of a stream of hydrogen through the arc between two electrodes. The heat of the arc breaks up the hydrogen molecules into atoms. These combine again a short distance beyond the arc into molecules of the gas, and in so doing liberate an enormous amount of heat, so that more effective welding temperatures can be obtained than with the usual welding methods.

Since atomic hydrogen is a powerful reducing agent, it reduces any oxides which might otherwise form on the surface of the metal. Alloys containing chromium, aluminum, silicon, or manganese can thus be welded without fluxes and without surface oxidation.

Thorough trials, extending over a period of many months, were made and the apparatus, as finally designed, represents the result of continued experimentation and research.

The welding outfit consists of the following: (1) a single-phase transformer for converting the voltage of a 60-cycle source of power to one suitable for the welding equipment; (2) a specially designed, variable reactor to provide the proper welding current and voltage for different classes of work, and (3) the welding torch by means of which the actual work of welding is performed.

While the principle of operation is the same as that involved in the design announced by the General Electric research laboratory a year ago, the mechanical and electrical design has been much improved. The torch consists of a holder supporting two tungsten wire electrodes, the electric conductors connecting these electrodes through the reactor to the supply source, and the tubing for the hydrogen gas. Each electrode is supported inside a nozzle through which the hydrogen gas is forced out around the electrode. The combination of electrodes and nozzles is set at an angle and the distance between electrodes, or arc length, and also the flow of gas, are readily adjustable.

The electric conductors to and through the torch are heavily insulated and, when welding ceases, the welding circuit is automatically interrupted until such time as the operator is ready to weld again, when the circuit is automatically restored. In contrast to the usual method of electric arc welding, there is no current flowing from the electrodes to the work to be welded. The circuit is completed from one electrode to the other.

The reactor consists of a U-shaped core provided with pole faces between which a pivoted armature is arranged to move. The legs of the core are with coils connected in series with the electrodes of the welding torch. The amount of welding current and voltage is governed by the movable armature which changes the air gap of the magnetic circuit and therefore the reactance. This armature is normally biased to an open position, and, upon a flow of current through the coils of the reactor, is attracted to a closed position that may be determined by means of a handle and a suitable mechanism. When the arc is struck the armature automatically assumes the closed position and remains there until welding ceases, when it automatically resumes the normal position of maximum air gap.

In making edge welds, the metal to be welded is melted under the heat of the arc, but for that type of welding it is necessary to add additional metal from a filler rod fed into the arc in much the same manner as is followed in the ordinary gas welding process.

The new equipment is so far being marketed for operation from 60-cycle, single-phase circuits only, and is recommended for use on ordinary metals of less than one-quarter inch in thickness, or on hitherto unweldable metals of greater thickness. Metals having a thickness of but ten mils can easily be welded and little doubt is expressed that, in some cases, work as thin as two mils (about the thickness of ordinary writing paper) can be welded.

Because of the absence of oxides and nitrides from the weld made by this process, it is particularly adaptable to the welding of special alloys so far not weldable by other methods, and also makes a strong, smooth and ductile weld on ordinary iron and steel work. Inasmuch as pure chromium, nickel, copper, aluminum, silver and other metals and their alloys—not to mention iron and the more common metals—can be melted without oxidation, it is expected that new possibilities will be opened in such welding, although the field of application has been but partly studied.

Liquid Fuel from Coal

The Shipbuilder, September.—Some alarm has recently been expressed at the fact, as revealed by the latest statistics issued by Lloyd's Register of Shipping, that Great Britain is one of the few countries in which the tonnage of motorships at present under construction is less than that designed for propulsion by steam machinery. Several arguments might be advanced as showing that in the case of a country like ours—which is almost wholly dependent upon external sources of liquid-fuel supply, while at the same time possessing ample supplies of cheap coal of the best quality—a slight predilection in favor of steam-driven tonnage may not be altogether economically unsound, and should certainly not be construed as representing a situation giving grounds for undue alarm. Such, however, is not the purpose of this article. Liquid fuel, whether consumed under the boilers of steam-driven tonnage or directly, as in the internal combustion engine, is possessed of many important and undoubted advantages from the owner's standpoint; but from this country's point of view the most disturbing aspect of the widely increasing use of oil fuel in our mercantile tonnage is the fact of its being an imported product.

Various attempts have been made to estimate the amount of oil imported into this country, but a conservative figure is probably little short of five million tons per annum. The coal equivalent of this enormous quantity of oil may be taken to represent something between seven and eight million tons, so that the far reaching influence on the coal industry of the prevailing oil fuel situation becomes at once apparent. It constitutes, in fact, no exaggeration of the position to say that the enormous increase in the use of oil fuel at the expense of coal during the last few years has exercised a very powerful and unfavorable influence upon the economic stability of this country in general, and of our coal industry in particular. As Britain is a coal-producing country, it is natural that this situation should be viewed with some anxiety; and signs are not wanting that efforts are being made in various quarters to combat the menace of imported oil by means of improved methods of utilizing our coal resources. Leaving aside for the time being the question of the possibilities of pulverized coal as a competitor of oil, especially when applied in association with high-pressure water-tube boilers, there appears to be a growing volume of opinion that the most promising avenue of attack on imported oil is the production of oil from coal. A careful perusal of the report of the Fuel Research Board for 1926, which has just been published, suggests that this view is also shared by the Department of Scientific and Industrial Research, under whose ægis the report has been prepared.

Three separate processes for the production of oil from coal have been investigated by the Board during the period covered by the report. In the first of these, the raw coal is subjected to low-temperature carbonization at about 500° to 600° C. A fairly high oil yield is secured, together with a gas of high calorific value, and, in addition, a free-burning residuum of solid fuel or "semi-coal." For this process various unofficial figures have been from time to time

submitted, but a fair average may be taken to be the production from each ton of coal treated of about fifteen hundred-weight of semi-coal, about twenty gallons of oil, and a large volume of good quality gas. Successful attempts have already been made to pulverize the semi-coal for burning in steam-raising boilers, but experiments have shown that the oil produced from coal in this way is rather difficult to burn directly in the cylinder of a Diesel engine owing to the occurrence of detonation. In experiments conducted by the Board, no difficulty was experienced in running a Diesel engine on a mixture comprising eighty per cent low-temperature oil and twenty per cent light American fuel oil. These experiments suggest that, in the present stage of development, a more promising line of progress would be to distill the lighter and more volatile fractions from low-temperature oil for the production of benzol for motor car and similar engines, retaining the residue for use as crude boiler oil.

In the second process investigated by the Board, the coal was converted into liquid products by the interaction of hydrogen at very high pressure and temperature. With this process, which is of German origin, it has been possible to secure as high a yield as sixty per cent oil and spirit from one ton of coal. The third process is purely synthetic, and is meantime only in the experimental stage. Liquid hydrocarbons are produced by treating varying proportions of hydrogen and carbon monoxide in the presence of suitable catalysts. This process appears meantime to hold little prospect of ultimate development on a commercial scale; and, in fact, one gathers the impression that with all three processes further substantial progress will still have to be made before any of them can reasonably be regarded as being capable of earning a profit under practical manufacturing conditions.

It would appear, however, that a more optimistic view of the possibilities of producing oil from coal on a commercial basis is held in Germany. At a recent meeting of one of the largest German chemical syndicates—the J. G. Farbenindustrie—the chairman announced that his company would be in a position at the beginning of next year "not only to produce half of the total German consumption of motor oils, but also to do this at a profit." The avowed aim of this company is further reported to be the production, in the near future, of sufficient gasoline oil to cover the whole of the German demand, with a margin for export. Whether these ambitions will be realized remains to be seen, but it is well known that an enormous amount of research has been in progress in Germany during the last few years with a view to discovering new methods of utilizing her coal resources. The syndicate already referred to is merely one of several very large German chemical groups which are known to be actively engaged in efforts to place the liquefaction and gasification of coal on a sound commercial basis.

With regard to development in this country, Sir Alfred Mond has recently publicly stated that, "before the end of the next five years, we shall undoubtedly be manufacturing large quantities of oil from coal in this country." Coming from such a source, a statement like the foregoing inevitably carries very considerable weight; and it is to be hoped that the prophecy will be fully realized, as we do not doubt it will. The economic advantages to this country attendant upon the perfection of a sound commercial process for the production of liquid fuel adequate to our needs—or even to a substantial fraction of our needs—from home-produced coal, must inevitably be so tremendous as to be only comparable with the industrial renaissance which followed the Napoleonic Wars. Students of the history of that extremely critical period are agreed that the salvation of Britain was only made possible by the remarkable era of new invention upon which the country then entered. Substantial improvements are no less desirable today in regard to the relatively low standard of living which is unfortunately imposed upon a large section of our industrial community; and there must be few who, regardless of political creed or dogma, can look upon the present condition of our basic coal industry as being incapable of considerable improvement. These, together with an all-around uplift of national well-being, are but a few of the results which might confidently be expected to follow the development of material sources of home-produced liquid fuel; and the rewards are of such a character as to insure that the best efforts will be directed towards this consummation.

Economy of Turbines vs. Diesel Engines

The Marine Engineer and Motorship Builder.—The description recently published of the trials of the *Empress of Australia* show that the turbine for main propulsion, coupled with oil engine-driven generators supplying power for the auxiliaries, is likely seriously to challenge the supremacy of the Diesel engine in the field of economy. For, though the thermal efficiency of the former still falls far short of that of the latter, a somewhat cheaper grade of fuel can be burnt, which balances out a great deal of the difference in efficiency; and when the present higher first cost of the Diesel and consequent higher charges are also considered, there can be little difference in the overall economy of the two types, at the present time.

In view of this close rivalry, the question of what advance in economy may be expected in future is one fully worth consideration. In the case of the turbine, some slight further economy may be effected by the use of higher pressures and temperatures, but the limit of progress in this direction cannot give a saving greater than about ten per cent on the fuel consumption. Reheating, using the exhaust gases of Diesel auxiliary engines as the source of heat, may give a further economy of five to ten per cent. Further saving is possible by the generation of the steam in boilers of the Benson or similar high-pressure type by the use of which a higher boiler efficiency could be obtained. At the same time a reduction in the cost of the installation might be possible, as a critical pressure boiler will be of comparatively small size and should be cheaper to build than an ordinary type of boiler of similar capacity.

Taking all the above factors into consideration, it appears possible that the fuel consumption of the turbine ship with Diesel auxiliaries may be reduced to slightly over 0·5 pounds per B.H.P.-hour, and that there may be a reduction of some five per cent in the first cost of the installation.

Turning now to a consideration of the improvements possible in the Diesel engine, it does not appear likely that fuel consumptions much lower than those that have already been obtained are possible, so that we can expect the minimum to be about 0·36 pounds per B.H.P.-hour. In first cost, however, very great reductions may be looked for. The double-acting engine should only weigh about sixty per cent of the single-acting, and as more experience is gained in the manufacture of the former the price will be reduced in proportion to the weight. Simplification of the auxiliary installation, which is often very complex, should also assist in the reduction of the cost of Diesel engine installation. Altogether a reduction of twenty-five to thirty per cent in the total cost of an installation may be expected, and this will bring the cost of the Diesel-engined-ship in line with or slightly below that of its rival fitted with turbines. Taking first cost and fuel consumption in conjunction, it would seem that the Diesel engine can hope not only to hold its own, but to gain a position relatively better than that which it now holds in comparison with the steam turbine.

RADIO

Radio and the Airman

Information Bureau, Radio Corporation of America, September 21.—Whatever radio means to the navigator and his fares at sea, it must soon come to mean as much or more to the airman and his passengers, when flying over the trackless ocean or across the black or foggy countryside—not as a spectacular feat, but rather as a matter of routine. To the aërial navigator, radio offers a ready means of communication with those below. It affords a wonderful organization for gathering and collating meteorological facts, that the airman may know the weather that lies ahead of him over a given route, and plan accordingly. By means of the direction finder, radio provides the true guide posts of the skies defining the aërial highways. Indeed, commercial aviation, in passing from the stunt stage to the commercial stage, can progress only so fast as radio beacons shall dot the great air routes of tomorrow.

Aviation radio is something quite apart from marine, transoceanic or broadcasting radio. In fact, it introduces still another phase of radio communication. The mechanical requirements of aviation radio are peculiar unto itself for in no other application must weight and space be so assiduously conserved. Equipment intended for use aboard ship or on land, no matter how portable it may be, is generally unsuited for use in an airplane. Hence special equipment has had to be designed and constructed.

Yet there is a most attractive side to aviation radio despite the rigid handicaps of minimum weight and bulk. Aircraft radio transmitters are capable of remarkable range with little power, due to the unobstructed propagation of the waves from the loftily trailing antenna, so that what power might be lost in meeting weight and bulk requirements, is perhaps more than made up in other ways.

The engineers of the Radio Corporation of America and its associated companies, the Westinghouse Electric and Manufacturing Company and the General Electric Company, are giving considerable attention to the development of aircraft transmitters and receivers. As a consequence, special equipment has been developed, embodying numerous refinements giving maximum efficiency with the minimum power, weight and bulk.

Typical of the special equipment developed for airplanes may be mentioned the installation aboard the ill-fated *American Legion* of Commander Davis, which crashed prior to its proposed trans-Atlantic flight. Weighing less than sixty-five pounds, without the accessories, and occupying an absolute minimum of space, this equipment included two transmitters and a receiver, with an effective working range of over a thousand miles! One transmitter was intended for shortwave operation on forty-five meters, and included a crystal quartz oscillator so as to hold the signals rock steady for ready interception at the distant points. The other transmitter was intended for communication with ships and marine land stations, with a wave-length range of from 550 to 850 meters. Both transmitters employed a fifty-watt oscillator tube. The antenna reel consisted of 350 feet of wire, with fish-shaped weights at the free end of the wire. In sending on the shortwave band, it was necessary to reel out about sixty feet of wire, and correspondingly more for the marine band transmission.

The receiver in this installation employed three tubes, an oscillating detector of the UX-201-A type, and two stages of audio-frequency amplification with the same type of tubes. It weighed only fourteen pounds. Both transmitter and receiver were mounted on strips of sponge rubber to minimize undesirable effects from the tremendous vibration present in an airplane.

In the case of a forced landing on the surface of the water, the *American Legion* was provided with a number of bamboo masts in sections, which could be rigged to over forty-five feet for the purpose of transmitting signals.

So far as the technique of aircraft radio is concerned, the means for entirely satisfactory service are at hand. The recent trans-Atlantic flight of Commander Byrd in particular, as typified by the constant bulletins from the *America* to the world at large during the passage, proves the value of radio communication to the airman. It is no stretch of the imagination or of enthusiasm to say that the carrying of radio by the trans-Atlantic flyer spells the difference between some measure of safety and a complete gamble. At the cost of a few pounds, and perhaps two cubic feet of their valuable space and competent operation, the intrepid airmen who have been lost in the ocean wastes of the Atlantic and the Pacific, during the past few months, might still be counted among the living.

The recent transoceanic flights have also disclosed the value of radio and radio organization in undertaking reasonably safe flights. The Radio Corporation of America has taken a hand in virtually all these flights to the extent of gathering weather reports from ships scattered over the oceans from hour to hour, so that the meteorological experts on shore might prognosticate the probable flying conditions over the proposed route. And when the course is over some three thousand or more miles of water, with an opportunity for a dozen or more meteorological conditions obtaining at any given time along the entire route, the value of radio to aviation becomes still more apparent.

Just as radio beacons are beginning to dot the various coasts as an infallible guide for seafarers, so must aviation radio beacons soon dot the great air routes. By means of the radio direction finder, the airman can aim his ship for a given point with the accuracy and certainty of a marksman pointing his rifle. Fog and blackness of the night cease to hold terror for the airman working with radio beacons. An important point to remember is that the airman, unlike the ocean navigator, navigates in a three-dimensional medium—the horizontal directions are complicated by the addition of the vertical direction. One of the most serious factors in flying is this navigation in the vertical plane and many fatal accidents are due to

lack of judgment as to the exact distance between airship and ground below, in a fog. With radio beacons, however, it is possible to guide the airman safely back to the ground, despite fog or blackness or other elements contriving to rob the airman of his sense of sight and direction.

America Adopts Beam Radiocast

Christian Science Monitor, September 1.—The authorization by the Federal Radio Commission for construction of a high frequency station for limited commercial purposes at Rocky Point, Long Island, by the Radio Corporation of America, has disclosed that radiocasting, highly developed in Great Britain, is to be utilized in the United States.

The British after several years of experimenting have developed beam radiocasting to a point where it is of high commercial value. This differs from ordinary radiocasting in that its waves are concentrated in narrow radius, while the other is diffused.

This concentration permits great speed and permeating power in transmission. The British have talked direct to India through monsoons by means of the beam system. This was not possible with ordinary radiocasting.

While the United States has outstripped the rest of the world in the extent and popularity of radio, very little attention has been given here to the use of the beam method. Because of its strictly specialized value it has small worth for popular usage, and it was only when a commercial demand arose that the radio industry turned to its use.

The new station designated as WAJ, at Rocky Point, will be located at the American terminal of the trans-Atlantic service of the Radio Corporation. The corporation has been licensed to use the station for communication with London, Paris, Berlin, and Rome. Its authorization permits the use of a 13,480 kilocycle wavelength and 80,000 watts for power.

The British are understood to be experimenting with the beam method for around the world radiocasting. Direct communication is said to have been established by them not only with India, but with Australia and South Africa. The introduction in the United States of beam radiocasting is expected to forecast a rapid growth in the development of commercial radio communication both at home and abroad.

MISCELLANEOUS

Artillery Questions in Foreign Navies

Marine-Rundschau, August.—In an article of May 20, last, *The Engineer* makes a thorough analysis of the article appearing under the above title in the May issue of the *Marine-Rundschau.* While agreeing with the views expressed in that article, namely that it is well to choose the heaviest caliber that will still allow the requisite number of guns for effective firing, our contemporary does not seem to have grasped aright the procedure with regard to a possible diminution in the number of guns. The author neither said nor meant to say that a reduction in the number of guns in the case of 35,000-ton ships was necessary or advisable when the ship has a carrying capacity for eight or nine guns of 40.6 centimeters. Unquestionably, reserve guns are always desirable, while gun turrets, as shown by the war, are harmful. In favorable moments the entire battery can be utilized, as the firing is more rapidly effected and there is no need of waiting for the results of observation after each volley. The suggestion that, in case of need of reduction, the number of guns rather than the caliber should be reduced referred plainly to the smaller types of guns, which the smaller navies may be compelled to build for political, economic reasons, or owing to requirements of navigation. As pointed out by *The Engineer,* the suggestion has its significance even for Great Britain if, in replacements, ships of the line are to be reduced to 20,000 tons.

A battery of four of the heaviest guns is sufficient for the requirements if the loading time can be reduced to about seven seconds under normal speed, which is entirely practicable also for guns of 40.6 centimeters. Furthermore, the requirements of a minimum of four guns in a salvo took its origin in times when, as will be remembered, gunnery was developed exclusively on the basis of short or long range firing, there being practically no effort at observation and range finding. Conditions have changed. Observation makes it possible to estimate or measure deviations from the target and thus to conduct successful firing with a battery of three guns, or of two, or even with a single gun. Improved range finders contribute to the same end.

Hegemony in the Baltic

Revista General de Marina, July.—We have spoken on various occasions of Germany's naval policy in the Baltic. Russia, on her side, slowly but constantly, transformed into a powerful fleet the ships of the old Imperial Navy, and further has in construction four large fast cruisers and some destroyers.

Apparently, the two battleships *Gangut* and *Potalva,* ransacked and set on fire during the revolution, have undergone considerable repairs in the Navy Yards and will, in the near future, enter the service under the names of *Michail Frunze* and *October Revolution.* They are two fine ships of 24,000 tons; length, 181 meters; width, 26 meters; draft, 8.30 meters. They are well protected, as was the practice in the old Russian Navy. They carry twelve guns of 30.5 centimeters (12 inches), 52 calibers and have an extraordinary initial velocity for such guns; also sixteen anti-aircraft guns of 12 centimeters and two of 76 millimeters. The required speed was twenty-three knots. At the outbreak of the war, four of them were about to be completed. The *Sebastopol* and the *Petropavlovsk,* now named *Pariskaia Commune* and *Marat,* respectively, underwent repairs some time ago; they took part in the last maneuvers of the Red Fleet in the Gulf of Finland.

Whatever may be the fighting strength of these ships—and much depends on the efficiency of the personnel—they evidently constitute a force which Germany cannot overlook and which make of Russia the strongest naval power in the Baltic waters. The eight German pre-dreadnaughts, of half the tonnage, having a speed of 17.5 knots and armed with guns of 28 centimeters, would hardly be able to compete with them if we assume equal skill in handling on both sides. But somehow the Russian navy in the violent hands of Bolshevik policy constitutes a serious menace for Germany, for if the former lived up to their creed they ought to burn their ships instead of preparing them for war.

The German Admiralty's plan of replacing the force of antiquated battleships by others of limited tonnage and sufficient speed, but powerfully armed and protected —ships that will never venture on distant seas but rather limit themselves to defending the coast and maintaining supremacy in a sea which is of vital necessity to that country—that plan, we will repeat, must be Germany's answer to the threat of the Soviet Navy.

New Construction Program for Italy

Revista General de Marina, July.—With the funds available from previous fiscal years and the appropriations provided until 1929-1930, it has been possible to begin the execution of a new program of construction, which includes the following units:

1. Three submarines, the construction of which has already been ordered: one of the cruising type and the other two of medium tonnage, all three being mine layers;

2. Six submarines of medium tonnage, specially adapted to the needs of the Mediterranean;

3. Twelve destroyers of 2,000 tons, begun some months ago, the speed of which will be thirty-eight knots, carrying six guns of 120 millimeters and six torpedo tubes; and

4. Four scouting cruisers of 5,000 tons, provided with an efficient system of watertight compartments, being well armed and having a high speed.

Speed is the predominating question in the Italian Navy today; and although the naval engineers declare themselves unable to assure both offensive and defensive qualities in high speed ships, Admiral Soriani, who directs at present the destiny of the Navy, shows himself optimistic on this point, declaring that the new Italian ships are the technical solution of the tonnage problem, as it is possible to attain, with good results, a given speed while offering at the same time good offensive and defensive conditions; and that what is needed is squadron chiefs and admirals who are convinced that speed is essentially an offensive weapon, as well as the necessary orders for high modern speed which, without doubt, he hopes to secure.

Spain and Argentine Republic

Le Yacht, July 16.—Spain has agreed to loan the Argentine Republic 100,000,000 pesetas with which to buy the Spanish destroyers *Churruca* and *Alcala-Galiano,* launched in 1924 and 1926, respectively.

These ships of 1,650 tons have a length of ninety-seven and fifty meters. They have turbines of 42,000 C.V. for a speed of thirty-six knots. They have a cruising

radius of 4,500 miles at fourteen knots.

The main artillery consists of Vicker guns of 127 millimeters, built in Spain. Their initial speed is 850 meters; weight of projectile, 22 kilos; total length, 5.58 meters; weight, 3,201 kilos; trunions and accessories weigh 1,219 kilos; carriage, 2,108 kilos. Total weight, 6,528 kilos. Maximum recoil, 813 millimeters. The *Churruca* carries also an anti-aircraft gun of 75 millimeters and six torpedo tubes of 533 millimeters.

These ships will be replaced by two others which will be laid in Spain.

Italy—Budget for 1927-1928

Le Yacht, August 13.—For 1927-1928, the naval budget carries 1,219,000,000 lire, an increase of 10,000,000 over last year. The number of seamen has been raised to 43,000, and the ranks to 2,200 officers and 6,000 petty officers—one to seven. The number to be admitted to the Naval School was fixed at 110, which is ten more than in France.

As to aviation, Italy, which had only 600 machines in 1922, will soon have more than 2,000. In three years about 2,800 machines will be ready to fly.

CURRENT ARTICLES AND BOOKS

Articles

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"Soaring Flight." *Journal of the Franklin Institute,* September, 1927.

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"A Quarter Century of Franco-British Relations," A. C. Coolidge. *Foreign Affairs,* October, 1927.

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"Is Anglo-Japanese Rapprochement Practicable?" K. K. Kawakami. *Nineteenth Century,* September, 1927.

"The Riddle of the Cruisers," Hugh Spender. *Fortnightly Review,* September, 1927.

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"Japan in World History," Sir V. Chirol. *Contemporary Review,* September, 1927.

"Current History" for September

I. *Latin America Today: A Symposium*

"Relations Between the United States and Latin America Since 1898," by Charles Wilson Hackett, Professor of Latin-American History, University of Texas.

"Billions of Our Capital Invested in Latin America," by Harry T. Collings, Professor of Economics, University of Pennsylvania.

"Latin America's Growing Financial Stability," by William E. Dunn, Former Director General of Internal Revenue of Haiti.

"The Basis of American Intervention in the Caribbean," by Dana G. Munro, Officer of the Latin-American Division, U. S. Department of State.

"Latin-American Nations' Failure to Attain Unity," by Carleton Beals, Special Writer on Latin America.

"Influence of the United States on Central American Progress," by William Jennings Price, Former United States Minister to Panama.

"The Monroe Doctrine as an Obsolete Principle," by Samuel Guy Inman, Executive Secretary, American Section, Committee on Coöperation in Latin America.

"Dollar Diplomacy in Latin America," by Henrik Shipstead, Member of the Foreign Relations Committee of the United States Senate.

"Shall We Form a League of American Nations?" by Irving T. Bush, Former President of the Chamber of Commerce of New York State.

INTERNATIONAL NOTES

SEPTEMBER 1 TO OCTOBER 1

PREPARED BY PROFESSOR ALLAN WESTCOTT, U. S. NAVAL ACADEMY

FRANCO-AMERICAN TARIFF PROBLEM

NEW FRENCH TARIFF HITS AMERICAN TRADE.—The new French tariff legislation, together with the recent Franco-German commercial agreement, both of which went into effect on September 6, threatens to put a serious burden on American exports to France. The new tariff provides maximum and minimum rates on the same commodities, and in the absence of a reciprocal agreement the maximum rates, four times the minimum, would apply to American goods, whereas German goods are allowed to enter at the lower rate. It is estimated that the new rates will affect about $80,000,000 worth of American manufactured articles out of a total of about $275,000,000 exports to France. These include especially electrical equipment, heavy and light machinery, hardware and other metal products, chemicals, leather, and manufactured specialties, in nearly all of which Germany is a competitor. French exports to the United States amount to about $152,000,000.

The United States Government at once entered a protest against the new rates and on September 12 presented the draft of a treaty providing for "unconditional most-favored-nation treatment" which would secure American goods the lower tariff. This the French Government refused to accept and proposed instead to enter negotiations for a treaty involving mutual tariff concessions. It proposed also to reduce the rates on American goods fifty per cent during the negotiations and stated that in any case the new tariff would not apply to goods, the bills of lading for which antedated September 6. This proposal was not acceptable to the American State Department, especially in view of the fact that the American tariffs are not open to modification by treaty without Congressional sanction.

The United States, up to 1923, stood out for "conditional" most-favored-nation treatment, which meant that agreements such as the Franco-German treaty could be made without lowering the tariffs on goods from other nations, but since 1923 the United States has adopted the "unconditional" interpretation. On this basis treaties have been ratified with Germany, Esthonia, and Belgium, and signed with three other nations; but there are twelve European and South America countries with whom negotiations are still in progress, and with whom trade since the war has been carried on under a *modus vivendi*.

RESULTS OF IRISH ELECTIONS

GOVERNMENT GAINS SLIGHT.—The parliamentary elections in the Irish Free State on September 14 brought only slight gains to the Cosgrave Government party. Out of a total of 152 seats, the government, with its probable allies, the Independents and Farmers, secured 79 and the opposition groups 73. It was expected that, in spite of this narrow majority, the Cosgrave Ministry would continue in office through the coming year. The Dail meets on October 11.

The vote gave the government 61 seats, Farmers 6, Independents 12, Fianna Fail 57, Labor 13, others 3.

THE LEAGUE AND DISARMAMENT

EIGHTH LEAGUE ASSEMBLY.—The Eighth Assembly of the League of Nations met at Geneva on September 5, and ended September 27. Alberto N. Guani, of Uruguay, was elected president by a single vote over the rival candidate, an Austrian. The League nations not represented, aside from Spain, were all Latin American—Argentina, Bolivia, Brazil, Honduras, and Peru. Much of the time of the assembly was taken up

with discussion of schemes for outlawing war and methods of continuing efforts toward limitation of armament. A Norwegian delegate cited figures showing that armed forces and military expenditures in Europe are only slightly below those of 1913. On September 9, Foreign Minister Stresemann, of Germany, created a sensation by stating that Germany would accept compulsory arbitration by the World Court, and on September 23, German representatives signed the protocol, which has now been accepted, though in some cases with reservations, by thirty-three nations.

In the course of the Assembly discussions there was much criticism of the major powers by representatives of the small states on the ground that by taking international problems into their own hands for settlement, they had prevented the League from becoming a real force.

COUNCIL ELECTIONS.—Three of the nine non-permanent seats on the League Council became vacant by the expiring membership of Czechoslovakia, Salvador, and Belgium. These seats were assigned to Canada, Cuba, and Finland. The selection of Canada gave the British Commonwealths two seats on the Council, but other nations appeared little worried by fear that Canada would be dominated by England. Belgium failed of re-election by three votes, and this was regarded as a setback for the major powers, since Belgium has been considered as in the same status with the larger European states except in size, and has usually followed their lead in Council activities.

HUNGARIAN-RUMANIAN DISPUTE.—During the September session of the League Council and Assembly, the Council was called upon to consider the dispute between Hungary and Rumania over compensation of Hungarian landlords in territory acquired by Rumania, as a result of seizure of their estates under the new Rumanian land reform laws. The report of the committee, of which Sir Austin Chamberlain was chairman, was favorable to Rumania, requiring the Hungarians to abide by the new law, and accept "liquidation" of their property, provided there was no inequality in the treatment of Hungarians and Rumanians. This decision was not accepted by Count Apponyi, the Hungarian representative, who pressed for a World Court opinion. The matter was deferred until the December meeting of the Council. It was stated that the Hungarian landlords demanded two billion gold crowns for their land, a sum equal to the Hungarian reparations debt to Rumania.

DISARMAMENT AND SECURITY PLANS.—The Third Committee (Disarmament Committee) of the Assembly reported in favor of a plan for continuing the work of the special "Preparatory Committee for the Conference on Limitation of Armament." According to this plan, which was approved by the Assembly and Council, the Preparatory Commission will resume its activities in December, and at the same time will create a special "Security Committee" to study the best means of extending arbitration and security compacts. This plan is in line with the French thesis that there can be no real progress toward arms limitation until security is assured, and it is also in accord with the British and American idea of progress by regional agreements and treaties between limited groups of nations.

UNITED STATES IN TRADE CONFERENCE.—(From New York *Times*, September 20)—Washington, September 19.—Acceptance by the United States of an invitation from the League of Nations to take part in the international conference to be held at Geneva on October 17, with a view to framing an international convention for abolishing import and export prohibitions and restrictions was announced today at the State Department, which made public its correspondence with the League on the subject.

Hugh Wilson, American Minister to Switzerland, will represent the United States, assisted by technical advisers. It is probable that these assistants will be named from the Department of Commerce and the Tariff Commission, although the questions to be taken up are not expected to run primarily to tariffs.

The conference project is partly an outgrowth of the Economic Conference held under League auspices at Geneva last spring and will have as its agenda a draft convention framed during that conference. The two conferences differ, however, in that the representatives at the Economic Conference had no plenipotentiary powers and could not negotiate treaties.

The coming conference, it was explained

by the State Department, is a result of the various restrictions, licensing systems, etc., which have arisen in Europe since the war. It will not discuss such questions as prohibitions on account of health or agricultural restrictions against carrying plant diseases, nor the tariff question, except possibly in a broad way and when considered "more than national."

The United States, it was added, is interested in the conference mainly because its trade is often seriously hampered by minor restrictions, particularly in some of the new nations in Europe set up after the war.

UNITED STATES AND LATIN AMERICA

AMERICAN INTERESTS IN LATIN AMERICA.—The September number of the New York *Times Current History* was a Latin American number, containing seven articles by Latin American writers and seven by writers of the United States dealing with Latin-American problems. One of the most significant articles was an able defense of American policies entitled "The Basis of American Intervention in the Caribbean" by Dana J. Munroe of the Latin American Division of the United States Department of State. The Latin American writers for the most part sharply attacked the Monroe Doctrine and were extremely critical of the results of American participation in Central American politics.

Under the title "Billions of our Capital Invested in Latin America," Professor H. T. Collings, of the University of Pennsylvania, brought out the fact that out of $22,000,000,000 of American capital, which constitutes our contribution to financing the outside world, upwards of $5,000,000,000 is invested in the countries to the south of us. On December 31, 1925, the Department of Commerce estimated that the total investments of the United States in Latin America amounted to $4,240,000,000. Of this amount, $910,000,000 was in Government securities or in Government-guaranteed obligations and $3,330,000,000 in industrial and other private securities. During 1926, about $1,000,000,000 additional foreign investments were bought by United States citizens, and of this amount $354,989,700 went to Latin America. About $70,000,000 of the 1926 investments went to private industrial and commercial corporations. The remainder was borrowed by national governments, States or municipalities, and was largely destined for the construction of railways, highways or other public works. A more recent estimate by the Department of Commerce (June 30, 1927) placed our Latin American investments at $4,800,000,000.

FAR EAST

JAPAN AND NAVAL AGREEMENTS.—Upon his return to Tokio from the Geneva Naval Conference, Viscount Admiral Saito, the Japanese delegate, stated that he was prepared to suggest that his government call another conference, at which he believed there would be reason to expect better results. A statement from the Tokio Government on the next day indicated, however, that it had not considered such a proposal and would not be likely to move at this time.

FUSION OF HANKOW AND NANKING RÉGIMES.—On September 1, it was announced by Dr. C. C. Wu, the Nanking Foreign Minister, that the rival Nationalist governments at Nanking and Hankow had come to an agreement and that a coalition ministry would be created with headquarters at Nanking. It was also stated that reinforcements from Hankow had prevented further advance of the Shantung armies.

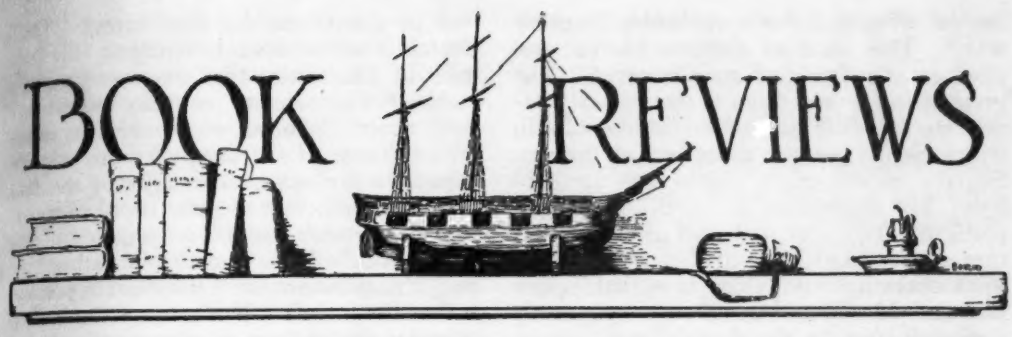
HONOLULU CONFERENCE ON PROBLEMS OF PACIFIC.—The second conference in problems of the Pacific (the first was in 1925) met at Honolulu, July 15-28, with 128 attendants from China, Japan, the United States, England, Canada, Australia, and New Zealand as well as three each from the Philippines and Korea. There were forty-four American delegates, headed by President Wilbur of Leland Stanford University, including chiefly professors, but with some representatives of business, finance, and religious organizations. According to a report of the conference by Professor George H. Blakeslee in September *Current History*, "No resolutions were passed; no formal proposals were advocated; but the members left Honolulu with a sympathetic appreciation of the beliefs and feelings of other Pacific peoples, so that in their home lands they would be able to exert a real influence in favor of a more intelligent and unprejudiced treatment of vital issues of the Pacific and the Far East."

Undoubtedly much was learned by actual contact between representatives of divergent national points of view, but from summaries given there was no marked progress toward solutions of the problems raised. While the Chinese problems present more immediate difficulties, those of Japan appear the more difficult of solution. With a population increasing at the rate of 700,000 a year, the most dense on earth—four to the acre—in proportion to arable land, with national income relatively stationary and emigration difficult, Japan faces a situation that steadily increases in gravity.

Membership New members not previously published:

Archbald, Woodrow
Aiken, I. H.
Adams, R. L., Ens., U.S.N.
Albert, A. F.
Abel, E. F., Jr.
Abbot, W. J.
Arnold, F. H.
Ballou, H. W.
Balsdon, George, Jr.
Balsdon, G. A.
Barnes, D. H., Elec. U.S.N.
Barth, T. H.
Beck, C. W., Jr.
Bennett, B. W.
Blake, W. C., Dr.
Birmingham, J. L.
Bodge, E. E.
Bolander, L. H.
Bon Durant, C. R.
Borough, E. W.
Bransten, Charles
Braun, W. F. H.
Brewer, John
Brimblecon, J. C.
Britt, E. W.
Browne, R. C.
Brown, Edgar L.
Burks, H. G., Jr.
Busk, W. H.
Butler, G. R.
Button, J. P.
Caldwell, R.S., Ens., U.S.N.
Campbell, J. H. M.
Campion, Helen M., Miss
Carlson, H. F., Lieut. U.S.N.
Carr, R. S., Lieut., U.S.N.
Carret, J. W.
Cartwright, Bruce
Case, F. S.
Chaney, Lon
Channing, H. M.
Chapman, James, Lieut. (S.C.) U.S.N.
Chester, C. M., Jr.
Clark, E. F.
Clark, R. S.
Clough, H. T., Dr.
Cocroft, W. L.
Coe, E. H.
Cole, S. G.
Coolidge, J. T.
Coolidge, W. H., Jr.
Cox, J. H.
Crane, Richard
Crittenden, S. H., Jr., Ens., U.S.N.
Curtis, L. L., Lieut. U.S.N.R.
Custer, G. D., Lieut., U.S.N.
Cuvillier, L. A., Lieut., U.S.A.
Danieli, W. F.
Davies, J. A.
Dayton, W. S.
Deets, S. R.
Devlin, J. F., Jr.
Dickey, F. C., Lieut., U.S.N.
Diericks, A. C.
Dillingham, W. F.
Doering, E. J., Dr.
Dodd, W. E.
Dodge, H. F.
Donnelley, A. G.
Douw, J. deP.
Dow, F. P.
Duckett, Marion
Duke, J. M., Ens., U.S.N.
Dunlap, W. B.
Eaton, R. O.
Eaton, W. S.
England, G. M.
Ewing, E. A.
Ewing, J. M. S.
Fairfax, C. W.
Farnsworth, J. G., Ens., U.S.N.R.
Farwell, R. F.
Farrington, W. R.
Faust, D. DeC.
Fay, B. T., Captain U.S.M.C.R.
Fay, Reginald
Fernald, R. G., Lieut. U.S.N.R.
Finlay, G. T., Lieut. Comdr., U.S.C.G.
Finney, E. P., Capt., U.S.N.
Fisher, F. L., Lieut. U.S.N.R.
Fitch, S. J.
Flanders, W. B.
Forbes, A C., Lieut., U.S.N.R.
Foster, F. deP.
Fowler, W. S. G.
Fox, S. K.
Gaines, R. K., Ens., U.S.N.
Gerth, W. A., Ens., U.S.N.
Ginrich, J. E., Lieut. U.S.N.
Glatzel, E. D., Ens., U.S.N.R.
Good, H. C.
Goodrich, L. E.
Goldwaite, Robert, Lieut., U.S.N.
Gore, Tom, Jr., Ens., U.S.N.R.
Gould, H. E.
Gouldrup, Gerald, Ens., U.S.N.R.
Gosnell, A. J.
Granbery, G. M., Ens., U.S.N.
Griffel, George, Ens., U.S.N.R.
Griffith, W. E.
Groeniger, W. C.

(Continued on page 1251)



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A GREATER THAN NAPOLEON—SCIPIO AFRICANUS

By Captain B. H. Liddell Hart.
Little, Brown, and Company. $3.50

"Take the war to Africa." We use this expression every day and know exactly what it means. If we had to we might even recall how the expression originated. Mention of the name Scipio would probably stir such recollection, but to most of us little more. The reason is plain: Plutarch's book on Scipio is lost; the first and last biography of him in English, says Captain Hart, appeared in 1817, was written by a country clergyman, and omits any study of Scipio as a brutal soldier. So the value of this present work in filling a long empty niche is notable; and when we have read the book and realize what a great niche it is, we appreciate our gain.

Our authentic knowledge of Scipio the Great is practically limited to the writings of Livy and Polybius. The former lived years later, and was above all things chauvinistic; the latter was contemporary with the events, and was a Greek; therefore neutral and presumably unbiased. However, Polybius gets his information first-hand from Laelius, Scipio's ablest subordinate. Suppose that our knowledge of Grant were limited to a book by a man who had all his information from Sherman! Rather slender foundations upon which to build a history of a life. One is apt to forget this as he becomes engrossed in this book.

History *qua* history we suppose should not be written in a contentious vein. The very title of this book is contentious; the theme is carried through. This makes for interest, but does it make for a true understanding—for conviction? The reader picks the book up with a question; he lays it down with a reservation. If Scipio were so great why has his name not come ringing down the centuries? The author anticipates this query. At the outset he advances an ingenious hypothesis:

> So with the luminaries of the human system, provided that the ultimate fall has a dramatic note, the memory of spectacular failure eclipses that of enduring success. Again, it may be that the completeness of his course lends individual emphasis to the great failure, throwing his work into clearer relief, whereas the man whose efforts are crowned with permanent success builds a stepping-stone by which others may advance still farther, and so merges his own fame in that of his successors.
>
> The theory at least finds ample confirmation in the realm of action. A Napoleon and a Lee are enshrined in drama, in novel, and in memoir by the hundred. A Wellington and a Grant are almost forgotten by the writers of the nations they brought through peril intact and victorious. Even a Lincoln may only have been saved from comparative oblivion by the bullet of an assassin, a Nelson by death in the hour of victory, which relieved by emotion-awakening tragedy the disrepute of a successful end. It would seem likely that a century hence the name of Ludendorff will be emblazoned as the heroic figure of the European War, while that of Foch sinks into obscurity; there are signs already of this tendency to exalt the defeated.

History, however, has a utilitarian side. Admiral Custance, an eminently practical thinker, says: "The real use of naval and military history is to supply the material out of which can be evolved a theory governing

the use of armed force applicable in every war." This book of Captain Hart's supplies an abundance of such material. The great object lesson from it that appeals immediately to the sea officer is the use to which Scipio put the command of the sea. Scipio's expedition to Spain was amphibious; his expedition to Africa was amphibious. His very first operation, the capture of Carthago Nova or Cartagena, was a joint operation. Polybius says that Scipio was emboldened to attempt this apparently foolhardy feat by the thought that "in the event of failure he could, since he was master of the sea, place his troops in a position of safety." All through the Spanish campaign Scipio used the sea freely, even to the extent at times of calling his seamen ashore to work with the soldiers. And so later in Africa. His siege of Utica was a joint operation. In the face of overwhelming Cathaginian superiority he established his winter quarters on a long narrow peninsula. Never till his final campaign ending in the Battle of Zama did he feel secure enough to get more than a few miles from the sea, and even then he could have beaten Hannibal to the Mediterranean to the northward. The sea was a means; but so, for that matter, was the entire war. "The Roman, a politician above all, with whom war was only a means, wanted perfect means." (du Picq.) Scipio well nigh evolved a perfect means to use the sea. The author does not emphasize this point especially; but the material is there to be pondered.

This book leaves an inevitable feeling of superficiality in the mind of one used to reading histories of modern times. This is really a great feature of strength, for how easy it would have been for the author to embellish with half mythical anecdotes. It is plain that he has eschewed this temptation. Nevertheless, there is a residing feeling that the author has been so carried away by his theme that he slights some facts that do not go to enhance the prestige of his hero. For example, nowhere does he mention the pretty well established fact that Scipio's Spanish campaign was immensely benefited by the acrimonious dissension among the three Carthaginian generals there.

Lately it has become the fashion to deride Clausewitz, who is taken to typify the maxim that nothing matters except the defeat of the enemy's armed forces. Thus Captain Hart refers scornfully to "the doctrine of Clausewitz that the enemy's main army is the primary military objective." And again: "Those who exalt the main armed forces of the enemy as the primary objectives are apt to lose sight of the fact that the destruction of these is only a means to the end, which is the subjugation of the hostile will." This seems to be rather begging the question for Clausewitz's premise is that the hostile will is going to be broken only by the defeat of the hostile armed forces. And history has proved, whenever the enemy really meant business, that Clausewitz was right. ". . . . the national or political object can only be attained by the complete, partial, or threatened achievement of the military aim." (Custance) No way has yet been found to win a war without fighting. Scipio's carrying the war to Africa was not an exception to this principle. Actually if we had the complete facts and Scipio's reasons, we should probably find that the controlling factors in his mind were: first, to get farther away from the Roman Senate and the enemies in his rear; and second, to gain the aid of his skilfully won Numidian allies and the cavalry superiority they gave him. Scipio knew full well, just as Grant did twenty centuries later, that before he reached the enemy's capital he would find the enemy's main force barring the way. The enemy's capital was used to "fix" the enemy's main army, and not with any fond hope that the enemy's will could be broken without fighting.

General Maurice says: ". . . . a system of government which is incapable of dealing with war as it would with pestilence or any of the great social evils stands condemned." From this aspect the Roman government is reputed to have been one of the best there ever was. But this reputation was gained much later than Scipio's time and under another form of government. A further great lesson from this book is the old, old one of the impossibility of war being well conducted by an assembly. The ultimate control of the war on either side was in the respective senates. Hannibal throughout probably had more power in the Carthaginian Senate than Scipio had in the Roman, although Hannibal complained when he was recalled from Italy: "Hannibal has been conquered not by the Roman people, which he has defeated and routed a hundred times,

but by the jealousy of the Senate of Carthage." Scipio had such enemies in the Roman Senate as Fabius and Cato. Fabius had saved Rome; he had proved himself no mean general. Cato—with all his faults—was a staunch democrat, and unquestionably, according to his lights, worked solely for the interests of his country. The only solution for Scipio was that the people were for him almost to a man, and they overruled the Senate. "A nation that means to have victory will find the right leaders, whether it starts with them or not, because when it is once awake it ceases to consider persons and reputations." (Wilkinson)

Captain Hart will delight those who hold with Colonel Fuller that the principles of war can be ticketed and applied almost mathematically to any situation arising in war. The author frequently remarks how Scipio here observed the principle of the objective, of security, of surprise, of superiority, of economy of force, et cetera. This also makes for interest, and no fault can be found even by those who agree with Admiral Luce that: "The grouping together of a number of important facts gathered from the accounts of naval battles will enable the naval student who has acquired the habit of generalizing to lay down principles for his own guidance in war, and that is a work that each one can do for himself better than another can do for him."

Full-and-by this is a highly interesting book, very easily read, that may be finished in two or three hours and then thought over with much profit for two or three weeks. It is to be hoped that such books as this become popular with the citizens of the United States, for, as Lord Bryce has pointed out, the matured public opinion in a democracy is often better on foreign policy than is the opinion of the government itself. The very salvation of the United States is some day inevitably going to depend upon the will of its citizens. The more the citizen understands of war, the quicker is his opinion going to be formed, and the better is it going to be. "In these days when national policy is at the mercy of the ballot-box, it is not too much to say that a right understanding of the principles of maritime warfare is almost as desirable amongst civilians as amongst professional soldiers." (Thursfield) The support the citizens of Rome gave to Scipio over the opposition of the Senate was a triumph of public opinion two thousand years ago; the call for such a thing may come tomorrow.

T.L.G.

THE BRIDGE TO FRANCE

By Edward N. Hurley, Wartime Chairman of the United States Shipping Board, etc. 36 photographs and facsimiles. Lippincott Co., Philadelphia, $5.00.

This book is a noteworthy addition to the constantly increasing World War library. It tells the inside story of the Shipping Board and the Emergency Fleet Corporation; how ships were bought, commandeered, fabricated and built, mainly for the purpose of carrying war cargoes to Europe. The ships that transported the troops to France were principally the German converted ships, fitted out and repaired by the Navy, and the British ships that were chartered by the War Department, and for which a high price was paid. A few troops, not many, were carried in the naval overseas cargo ships obtained from the Shipping Board.

There is an array of figures scattered through the more than 300 pages of *The Bridge*, which might better have been tabulated to serve as an Appendix; nothing distracts attention from the text like statistics. Again a great deal of personal matter is carefully set forth which keener discrimination would have touched lightly, or omitted altogether, but it must be admitted that the almost stenographic records of conversations with President Wilson, Lloyd George, Foch and others gives to the book the "human interest" that outweighs unavoidable but tiresome technicalities. *The Bridge* is really an autobiographical sketch of one who played his part well in national civil affairs for two years from July, 1917,

The book contains much interesting matter not immediately connected with *The Bridge*. For instance, the chapters on the "Launching of Woodrow Wilson," and the accounts of the Conference at Freves, Spa and Brussels, are valuable contributions to the history of the period. It is, however, essentially a faithful chronicle of the real achievements, disappointments and trials of the Shipping Board and its innumerable sub-boards, bureaus, councils, commissions, etc.

There is perhaps too much detail. The average reader is not concerned with the

number of rivets a gang can drive, or the number of rivets in a given ship, or in the number and weight of the pieces of steel composing a "fabricated ship." It suffices that on the whole the work of ship-building was remarkably well done, and if the Shipping Board was not the principal factor in America's part in winning the war, which the author with pardonable pride in his great organization seems to believe, it was at least an important and essential one. Mr. Hurley gives unstinted praise to his associates, and in fact dedicates his book to them. Public recognition can go no further.

The Shipping Board was created by the Shipping Act of 1916. Its first important order was to forbid the transfer of vessels under the American flag to foreign hands, and the second act was the recommendation to Congress to create the Emergency Fleet Corporation, which became *de facto* ten days after the United States declared war. In July, 1917, Mr. Hurley became Chairman of the Shipping Board and held the position until July, 1919.

The most conspicuous enterprise of the Board was the creation of the Hog Island Ship Yard, at a cost of $65,000,000. Its first completed ship was turned out less than a month after the Armistice. Originally Hog Island was a swamp but it appeared to be the only site on the Atlantic Coast that met all requirements and presented the fewest disadvantages. It covered 846 acres, comprised 250 buildings, and had a water frontage of 20,000 feet. Fifty ships could be assembled simultaneously, and twenty fitted out at the piers. The output of the yard during its brief existence was 110 cargo ships of 7,500 D.W.T., eleven and a half knots, twelve transports of 8,000 D.W.T., fifteen knots, ninety wood ships and twelve of concrete. The first keel was laid February 12, 1918, and the last in December, 1919. In November, 1920, the yard was abandoned. The wood ships were built, and badly built, of unseasoned timber, the concrete ships for which $50,000,000 was appropriated were failures. Of the wood and concrete ships the author says, "they should have been regarded as legitimate war expense, junked, and charged off."

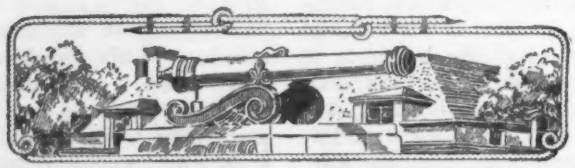
To the everlasting credit of the Shipping Board, it may be said, that in the disbursements of nearly $4,000,000,000, a searching Congressional investigation failed to discover an error.

For the first time since the Civil War there was a promise of a new merchant marine, and had the war-torn activities of the Shipping Board been followed up, we would now lead the merchant fleets of the World. But we are a peculiar people. In 1921 just as we were about to take the lead in naval power, we threw away our advantage, "as it were a careless trifle," and we did the same thing when a great merchant marine seemed assured to us. It is common and sad knowledge how we lost out in the Washington Conference in 1921. Propaganda, politics, mismanagement, inexperience and inertia throttled the new born merchant fleet.

We have today an international trade of $10,000,000,000 annually, and we are content to allow foreign competitors to carry 70 per cent of it, and at the same time there are 3,000,000 tons of shipping laid up and rusting at our piers!

Truly we may exclaim with the "conscrit" *quels temps! quel mouvements!*

—A. G.



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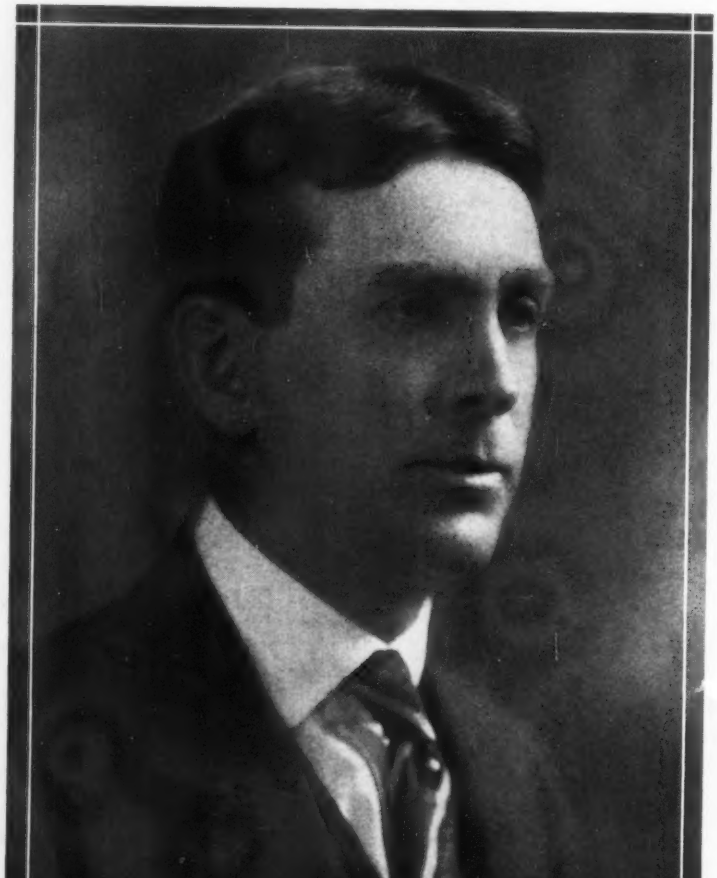
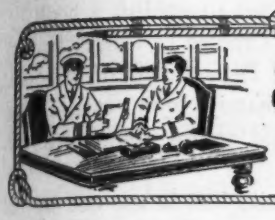


Distinguished Graduates in Civil Life

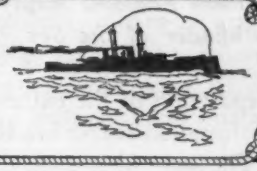
Mr. Joseph Wright Powell

JOSEPH WRIGHT POWELL graduated from the U. S. Naval Academy in 1897. After a two year post graduate course at the Academy interrupted by service on the U. S. S. *New York* during the Spanish-American War, he was ordered to the University of Glasgow and completed the special course in Naval Construction in the spring of 1900. On his return from abroad he served as assistant naval constructor at the New York Navy Yard and in 1902 was ordered to the William Cramp & Sons Ship & Engine Building Company, Philadelphia. He resigned from the Navy in 1906 to accept a position with the last named company. In 1914 he became president of the Fore River Ship Building Corporation. In 1917 he organized the five ship yards of the Bethlehem Steel Corporation into the Bethlehem Shipbuilding Corporation, Ltd. This company undertook the greater part of the Navy's war destroyer program. At the completion of this work in 1920 he severed his connection with Bethlehem. The following year he reorganized the U. S. Shipbuilding Emergency Fleet Corporation and served for a time as its president. Since that time he has engaged in business for himself with offices at 6 Beacon Street, Boston, Massachusetts.

In 1899 he married Bertha Allen Osterhout and has one son, Joseph Wright Powell, Jr., a graduate of Princeton University and the Harvard Business School.



SECRETARY'S NOTES



Distinguished Naval Academy Graduates In Civil Life

Last February we published the photograph of Professor A. A. Michelson, dean of American physicists, who graduated from the Naval Academy in the class of 1873, and afterwards, while holding the rank of ensign, was on duty at the Naval Academy in the department of physics and chemistry, when Commander (later Admiral) W. T. Sampson was head of that department. It was here that Professor Michelson began his experiments which led to his being the first one to measure, with any degree of accuracy, the velocity of light, announced by him in 1878.

We have received many letters asking that we continue this feature and the October number of the PROCEEDINGS we published a photograph of Mr. William Le Roy Emmet and this number contains a photograph of Mr. Joseph W. Powell. Future issues of the PROCEEDINGS will carry this feature.

Getting New Associate Members for the Naval Institute

About November 1, with the bills for next year's dues there will be enclosed a blank form, and a request that each regular and associate member nominate friends in civil life for associate membership. It would be appreciated if a large number of nominations were made and this office will take the necessary steps to insure that anyone renominated will not be communicated with again. The nominations sent in last year resulted in increasing our civilian membership about thirty-three per cent and the assistance of our new members is especially requested in sending us nominations of friends, who they think might be interested in the Naval Institute and the PROCEEDINGS.

Radio Broadcasting to Millions

To those who listened in on the radio broadcasting of the Fourth Annual Radio Industries banquet at the Hotel Astor on the night of September 21 there was much to think about. There were eighty-seven stations listening in and a conservative estimate of the number of listeners was placed at forty millions.

It was particularly pleasing to those Navy listeners to realize that the only speaker of the evening was Rear Admiral W. H. G. Bullard, U. S. Navy (retired), Chairman of the Federal Radio Commission, and many complimentary things were said about him in the introductory address by Mr. Paul Klugh before presenting the Admiral to the radio audience.

Admiral Bullard, whose photograph we have published on page xv, delivered a most interesting speech, reviewing the work of the Radio Commission. His principal recommendation for the improvement of radio reception was that receiving sets should have greater selectivity, his contention being that if transmitters can be stabilized by crystal controls, why could not receivers be made to tune sharper by this same means of regulation and thus afford a means of crowding many more stations on the air comfortably.

Matthew Fontaine Maury—Pathfinder of the Sea

The Naval Institute has decided to publish a book by this name, written by Professor Charles L. Lewis, United States Naval Academy, of the Department of English. The author has spent approximately four years in the preparation of the extremely interesting manuscript, which should appeal not only to the professional reader but to the layman as well.

The only biographical work on Maury that has ever been published is the one by his daughter, Mrs. Corbin, published in England nearly forty years ago. As the author says:

> No other great American has ever received so many honors abroad and so little recognition at home as has the oceanographer, Matthew Fontaine Maury. While his own country was but meagerly and, sometimes, grudgingly rewarding him, there was hardly a civilized foreign country that did not bestow upon him some mark of distinguished consideration.

This book should be particularly interesting at this time, when interest in charting the air is under discussion, as the present age seems to be waiting for the man who can do for the navigation of the air what Maury did for the navigation of the seas.

The Institute is fortunate in having the Foreword written by Commander Byrd.

The book will be bound in silk cloth and illustrated. No expense has been spared to make this a handsome edition. The book will probably be off the press about December 1; price $6.00.

Make-up of the "Proceedings"

The Editorial Staff and the Board of Control are making further efforts to improve the make-up of the PROCEEDINGS and a start has been made toward building up a library of photographs. At the present time the magazine is greatly handicapped by using two different kinds of paper, one for the textual pages and a different kind for the illustrations. We have called attention to this feature before and we are wondering if our readers would really object to having the textual pages printed on a paper sufficiently coated to reproduce half-tone engravings. We have been led to believe by some of our readers that the uncoated paper is best for reading under an artificial light as there is practically no glare from the uncoated surface, but we are wondering if it is necessary. We have talked with several magazine editors, one of whom has a circulation of over a million copies, and we have been informed that his organization does not receive a dozen letters a year complaining about glare. Our work would be greatly simplified if only one kind of paper, and that coated, were used, as the illustrations could be inserted near the articles to which they refer and a tremendous amount of time and money would be saved to the Institute through simplicity in the mechanical make-up features of the magazine.

We should be very pleased to hear from our readers if there is any serious objection to employing a white coated paper similar to that used in the June PROCEEDINGS.

The December Number

The December number of the PROCEEDINGS so far as illustrations are concerned will feature the twentieth anniversary of the departure of the Battleship Fleet and Destroyers, under Rear Admiral Robley D. Evans, from Hampton Roads, for the trip around South America.

It is planned for subsequent issues to feature in pictures the ports visited on that memorable cruise, in which the battleships, after arriving upon the Pacific coast of the United States, continued on around the world, via the Hawaiian Islands, New Zealand, Australia, the Philippines, Japan, China, etc., and, approximately fifteen months after their departure, arrived back home in Hampton Roads.

The Constitution's Two Figureheads

In this issue of the PROCEEDINGS appears an article on the subject of ships' figureheads by Mrs. Constance Lathrop, who, by the way, so far as the Editor can ascertain, is the first lady to have an article accepted and published by the Board of Control. Rear Admiral Elliot Snow, (Construction Corps) U.S.N., Retired, has contributed a discussion of her article which appears elsewhere in this issue, and he has furnished additional information regarding the figureheads of "Old Ironsides."

The point covered by the information supplied the Editor is whether the figurehead of the *Constitution* now at the Naval Academy, was the one mutilated at the Boston Navy Yard, July 3, 1834, or whether it is an entirely new figurehead. Admiral Snow has supplied the Editor with the following letters bearing upon this subject:

(1) Letter dated November 26, 1910, from the superintendent of the Naval Academy, Captain J. M. Bowyer, U.S.N., to the chief of the Bureau of Construction and Repair, Navy Department, Washington, D.C.

In accordance with the instructions contained in the attached letter, the Jackson figurehead has been thoroughly examined, after first having removed the paint to the shoulder line. It is the opinion of the Committee on Memorials and Exhibits that there is no trace of any repairs to the head of the figurehead. It is possible that an entirely new head has been placed on the body, but if so, it has been so cleverly done, and the securing of the head to the body has been placed so well down in the body, that it is not possible to see if it is the original head or not. The wood of the head and of the figure is the same.

(2) Letter dated October 7, 1919, from Rear Admiral A. H. Scales, U.S.N., to Mr. John S. Barrows, Boston *Transcript*.

Your letter of September 23 asking about the Jackson figurehead of the U.S.S. *Constitution* has been received.

In the Seamanship Department of the U. S. Naval Academy is a figurehead representing President Andrew Jackson. It is nine feet, six inches high, seventeen inches broad, and is four feet deep at its widest point. It was once on the U.S.S. *Constitution*, but there is no record here to show whether or not it came between other figureheads of Hercules and Neptune, and it is not possible to determine from an external examination whether or not the head has been refastened by a bolt or otherwise.

Mr. W. H. Wetherill of 126 South Thirtieth Street, Philadelphia, supplied the Naval Academy some years ago with an account of the decapitation of this figurehead. According to Mr. Wetherill's account, the head was sawed off just below the nose, and the upper part was carried around for some time as a trophy. This would seem to bear out the story of its having been mutilated, but if the original or a new head was afterwards replaced on the figure here it was done by doweling and the joint has been concealed by thick coats of paint.

There is no record here of any figurehead of the *Constitution* other than the one of President Jackson, except a simple billet borne during the War of 1812.

(3) Letter of November 9, 1925, by Captain Elliot Snow, (Construction Corps) U.S.N., to the curator of the U. S. Naval Academy Museum.

This morning's *Post* published a Boston dispatch saying that "the figurehead of President Andrew Jackson, which was sawed by Whigs from the battleship *Constitution* many years ago and transported to Willowdale in the town of Tyngsboro, has lately been removed from under the canopy sheltering it for nearly three-quarters of a century."

The dispatch goes on to say that "The story is told in Tyngsboro, quite mysteriously there appeared in a high-powered car at the Bowers farm, just outside the grounds of the pleasure resort which Jonathan Bowers laid out many years ago, an elderly gentleman. After making inquiries about the old statue, the anonymous visitor stated that all his life he had been interested in the *Constitution* and that he had an ambition to possess its figurehead." Apparently on being told that Mr. Ford had offered $10,000 for the relic the gentleman bid higher and got the relic.

Up to the present time I have been under the impression that this particular figurehead was at the U. S. Naval Academy. If so, what is your idea about the figurehead that is supposed to have been for three-quarters of a century at the town of Tyngsboro?"

(4) Letter dated November 28, 1910, by the Commandant, Navy Yard, Boston, Rear Admiral J. C. Fremont, U.S.N., to the Secretary of the Navy, containing seven enclosures.

Referring to Department's letter No. 4905-109, of November 10, 1910, requesting copies of photographs and copies of correspondence available tending to establish the claim of Mr. Joseph H. Hibbard, of Lowell, Massachusetts, that a certain figure of Andrew Jackson, now near Lowell, Massachusetts, is the original Jackson figurehead of the U.S.S. *Constitution*.

1. I have the honor to forward herewith, copies of two photographs of the figurehead in question, one with the head in place, and the other with the head removed. These photographs are marked respectively "A" and "B." [Editor's Note: Photographs "A" and "B" not here reproduced.] There are also forwarded, marked "C," "D," "E," and "F," respectively, copies of four letters and memoranda taken from the files of the Yard, which relate to this subject. There is also forwarded, marked "G," copy of portions of an article published in a Lowell, Massachusetts, paper about July 4, 1894. The newspaper article from which the last-named inclosure was copied was left in the Commandant's office, together with a number of others, by Mr. Hibbard in substantiation of his claim regarding the Jackson figurehead. The other newspaper clippings are not kept nor copied as they contain but little information in addition to that given in the one of which a copy is forwarded.

2. It will be noted from copies of official correspondence forwarded herewith that this matter was taken up by the Yard officers at the time the work of reconstructing the *Constitution* was in hand, and that the effort to secure the figure was abandoned on account of the fact that it could not be purchased under the special appropriation made for the restoration of the *Constitution* to her original condition.

3. I have not been able to secure any documentary evidence or any authentic contemporary newspaper accounts which would establish beyond question the identity of this particular figurehead, and there are several points not made clear in the accounts which have been consulted:

1st—It does not appear definitely at what time, and where, the original Jackson figurehead was removed and a second substituted.

2nd—It does not appear when and how the head which was sawed off by Dewey found its way back to the original figure, if it did so.

3rd—There is nothing to show whether or not the head now attached to the figure is the original head or a second one made by the Government, or a spurious one.

4. With regard to the first question: I have a newspaper clipping containing a quotation from what purports to be a scrap book of Mrs. G. A. Schultz of Roslindale, Massachusetts, in which the following statement occurs:

"For a time after Dewey's exploit the frigate remained in commission minus her figurehead; but she soon set sail for New York where a new and similar headpiece was procured."

If this statement is correct it yet is not clear as to whether the entire figure is referred to or merely the head.

5. With regard to the second point: Several other newspaper clippings seem to point to the conclusion that Dewey took the original head to Washington and showed it to the then Secretary of the Navy, Mr. Dickerson, and left it with him, and that it finally, in some way now unknown, found its way back to the original figure. This conclusion is founded merely on unauthentic newspaper statements and seems unlikely to be true.

6. Regarding the third point: I have not found any newspaper or other accounts which would show conclusively that a second head was ever made by the Government for the original statue.

7. On Sunday, the twenty-seventh instant, I went to Willowdale, a pleasure resort on a small lake near Lowell, Massachusetts, and inspected this figurehead myself. There is no doubt in my mind that it has at some time been the figurehead on a ship, and it appears to me probable that it was the original Jackson figurehead, which, after the head piece had been sawed off, was probably removed at this Yard and sold as junk. It furthermore seems to me highly probable that the head of the figure is not the original head but that it was made afterward, either by the Government or by private parties, and fitted to the figure.

8. The present proprietors of Willowdale, Messrs. Bowers, inherited the property from their father, who seems to have been a well-known character locally, and who is stated to have purchased this figure—whether with or without the head, does not appear—from a Boston junk dealer in 1861.

9. I believe that the genuineness of the figure, with the possible exception of the head is sufficiently well established to justify the Department in purchasing it, to be erected on board the *Constitution* as an interesting relic, although not as her original figurehead. It is understood that, when first commissioned, and until 1834, the *Constitution* did not carry a figurehead but was fitted with a billethead only and that the original billethead, or a reproduction of it, is now on board the vessel.

Enclosure "C"

There is in the possession of Mr. John Bowers, proprietor of Willowdale, Lowell, Massachusetts, a figurehead of Andrew Jackson that apparently is the original figurehead placed on the *Constitution* about May 1, 1834, of which the head was sawed off on the night of July 3, 1834, whilst she was moored off Charlestown between two seventy-fours, the *Independence* and *Columbus*. The head was restored and placed at Willowdale, July, 1861, twenty-seven years afterwards.

See current extracts from the Boston *Courier* of July 4, 1834, July 10, 1834, July 21, 1834, and the New York *Commercial*, date not given. Also see woodcut of view of the *Constitution* as moored between the U.S. seventy-fours *Columbus* and *Independence* at the Navy Yard, Charlestown, Massachusetts, in June, 1834, given on page 86 of the *Cyclopedia of Useful and Entertaining Knowledge*, by W. R. Murray, F.R.S., published in Boston in 1857 by Philip Sampson and Company.

It is understood that this figurehead was purchased by Mr. John Bowers, senior, from J. and J. D. Fowles, address unknown.

Enclosure "D"

THE JACKSON FIGUREHEAD—U.S.S. "CONSTITUTION," By D. Turner

Extract from *Putnam's Historical Magazine*, September, 1893-August, 1894, Vol. II.

This account is based largely upon *The Jeffersonian*, published by Horatio King, dated February 22, 1836.

A short time after this occurrence the following editorial appeared in the *Bunker Hill Aurora*, a Whig paper. It also occurred in the Boston *Daily Advertiser:*

"THAT WOODEN IMAGE"

"That wooden Andrew Jackson has been placed on the bow of the noble and venerable ship, the *Constitution*. We have since visited the navy yard and witnessed the desecration of this national ship to the very worst impulses of party sycophancy—man worship! We can regard the completion of this act of Commodore Elliott's in no other light than that of a mean and contemptible outrage upon the public feelings merely to gratify his own partisan partiality. It is a partisan act of one in the pay of the government, who is paid for his services for attending to the proper discharge of his official duty, and not for the adoption of measures of a party character, and not for making graven images for individual or public worship."

Notwithstanding all of the opposition and threats the famous figurehead was placed on the ship; and Commodore Elliott fully confiding in the integrity of all within the yard took no particular pains to guard it.

The frigate being moored between two ships of the line, both guarded by sentinels, he supposed no one could approach the vessel by water without detection, and knew that by land it was inaccessible except by treachery. But, says an historian of the affair, an event occured, which, like the spot on Lady Macbeth's hand, it never can be washed out. On a very dark night with strong wind, during a heavy shower of rain, the head was sawed off. The following day the Commodore reported the affair to the Navy Department at Washington:

"Navy Yard Boston, July 3, 1834

"Sir: I herewith enclose a communication from Lieutenant James Armstrong, of the receiving ship *Columbus*, relating to an outrage committed upon the frigate *Constitution*, a vessel of war of the United States, while moored between the seventy-fours *Columbus* and *Independence*, at this yard by some person or persons unknown.

"This insult to the government appears to have been long premeditated, and while the head was in the possession of the carver, a bribe was offered to him by three persons of high standing in the

city, provided he would let them carry off and insult it unmolested. The bribe was rejected by the carver, who gave the information, which induced me to have it removed to and finished at the yard, as I informed the Department last March.

"Some one, however, last night, in spite of the sentinels and the watch on board of the *Columbus*, found means to carry the project into execution during a severe storm of wind and rain. Suspicion rested first upon the marine on post and the shipkeeper, but it seems to me that some person from outside of the yard concealed himself on board the ship during the day, and at night, when the storm raged at its highest, accomplished his work and made his escape. The lower gate of the yard was found open in the morning.

"Immediately I sent for the carver and demanded the names of the three persons who offered him the bribe, this he declined to give unless compelled to do in due course of law.

"Respectfully,

J. D. ELLIOT

"Honorable Secretary of the Navy
Washington, D.C."

A few weeks after the figurehead was removed, Nicholas Biddle, the president of the United States Bank, visited Boston, and forty-four of the leading and most active Whigs invited him to an evening entertainment at one of the Boston coffee houses. After the cloth was removed the servants were sent from the room, and doors locked, the famous figurehead was laid upon the table, and the cheers which followed the act were loud and repeated over and over again.

Ex-Postmaster General Horatio King, of Washington, informs us that this Dewey, whose Christian name is Samuel W., was often at the General Post Office Department between 1846 and 1856, when he became well acquainted with him.

Enclosure "E"

U. S. Frigate *Constitution*
Inside Sandy Hook
March 15, 1835

SIR:

I duly received your letter of the thirteenth inst. No delay has occurred in repairing the figurehead of the *Constitution;* although some might have occurred, had I not interposed my authority, and caused the head to be repaired in place of making the whole figure anew. Previous to my leaving Boston, to prevent delay, I sent Mr. Dodge all the necessary plans which he duly received; and, upon my arrival off the Navy Yard, I sent for him to come on board, when he prepared to complete his work, which was accomplished in one day afterwards in his department, having previously worked upon agreeably to my suggestion.

The painters were this morning employed over the bows painting it, and at this moment it is completed.

Honorable Mahlon Dickerson
Secretary Navy
Washington, D.C.

Enclosure "F"

U. S. Frigate *Constitution*
Off the Navy Yard New York
March 11, 1835

. . . . . .

If in leaving Boston I have given offense by displaying the American ensign upon the figurehead of the President, the same disposition does not seem to exist here, for, upon my entering the port, the different vessels bound out paid it salutes by lowering their flags as they passed.

That I may be enabled to execute the first directions of the President, I shall send my family to Carlisle under the care of a friend, and shall be ready in forty-eight hours after this date to proceed to duty, if the new and required articles are on board.

Honorable Mahlon Dickerson
Secretary of Navy
Washington, D.C.

Enclosure "G"

U. S. Frigate *Constitution*
Off Sandy Hook
Sunday morning
March 15, 1835

. . . . . .

The artist employed to restore the figurehead has performed that service in a style reflecting credit on his patriotism and taste; and I pronounce the likeness even truer to the original than the one put on the frigate at Boston.

Honorable Mahlon Dickerson
Secretary of Navy
Washington, D.C.

Further Notes on Figureheads

Rear Admiral Elliot Snow, Construction Corps, U.S.N., has kindly furnished the Editor with the information that in *The Outlook* for January 27, 1915, pages 206 to 213, appeared an article by David A. Wasson, on "The Silent Pilots." In this article will be found the figurehead of the *Olympia*, "Winged Victory," designed by Augustus St. Gaudens (pages 207-208).

He also calls our attention to an article by R. G. Skerett, published in the *Rudder*, Volume 35, pages 553-558 (1919), the name of the article being "The Time Honored Practice of Ornamenting Ships," with an illustration of the *Olympia's* figurehead.

William Rush's Letter to Joshua Humphreys as to Figureheads of Frigates, April 30, 1795

Through the courtesy of Miss Letitia A. Humphreys, great-granddaughter of Joshua Humphreys, a copy of the following letter by William Rush to Joshua Humphreys, as to the figureheads of frigates, dated April 30, 1795, has been forwarded to us by Rear Admiral Elliot Snow, U.S.N.

"As the Revolution of America was a struggle for freedom and gave birth to a great Republican Empire, it ought to be an Elegant Figure representing the genius of America, binding the bases with her right hand, and raising the emblem of Liberty out of the top of the bases with the left; the bottom of the bases resting on a rock, the Emblem of firmness of Independence, the American Eagle darting upon and destroying the vitals of Tyranny with the shackles of Despotism and hurling them under the feet of the Genius of America."

"As the United States is a great Empire of Liberty, bounded on Law and Justice, it should be represented by the Goddess of Liberty, supported by the figures of Law and Justice and designated by the American Arms, Peace, Commerce, Agriculture, etc., resulting from her."

"As the Constitution of the Empire is the result of the Union of the States and United begets Strength, it ought to be represented by an Herculean figure standing on the rock of Independence, resting one hand on the bases, which was bound by the Genius of America and the other hand presenting a scroll of paper, supposed to be the Constitution of America, with proper appendages the foundation of Legislature."

"The American Constitution having a President, Congress, etc., for its Government and as no one has thought so fit for the Political head of so great a Republican body as Washington, let the President be the figurehead and Congress being the great Legislative Body in which the Majesty of the Republic alone can rest, it ought to be represented by the Goddess of Wisdom in the Character of the Democracy resting on a pedestal supported by the Cardinal Virtues on the top of which should be a number of Volumes supposed to be the laws framed by the Legislature. In her right hand should be the Constitution elevated so that the figure should be looking up to it. The consequences flowing from the Law under a Wise Administration, ought to be represented by the emblems of the Arts, Sciences, Industry, Peace, Plenty, and Independence, etc."

Diesel Engines versus Turbines

A recent report of Lloyd's showed that, for the first time, the tonnage of new ship construction being built with Diesel Engine power plants exceeded those with turbine installations.

Additional Information Relative to Jackson Figurehead Now at the Naval Academy

The Secretary has received the following information from Professor Herman F. Krafft, curator of the Naval Academy Museum, relative to the Jackson figurehead of "Old Ironsides":

In reply to your question, regarding the Jackson figurehead of the *Constitution*, the figurehead at the Naval Academy is the one worn by the frigate for about forty years, from the time when it was first mounted on her bows in 1834 until the early seventies, when it was transferred to the Naval Academy. Professor Soley who wrote his *Historical Sketch of the Naval Academy* in 1875 for the Centennial, describes on pp. 224 ff. the Jackson figurehead then just acquired by the Naval Academy. Soley was thoroughly cognizant with the Navy of his day and he evidently had not the the slightest doubt about the authenticity of the figure. All the officers of that day had first hand knowledge of the figurehead and of the fact that it had adorned the bows of the *Constitution* for many years. Commander Robert G. Denig in an article in the April, 1893, *Cosmopolitan*, p. 694, had no doubt about the figure and gives a picture of it with the arm in the waistcoat. Hollis' *Frigate Constitution*, published in 1900, also repeats the old story of Dewey, etc., and locates the figure at the Naval Academy.

As regards the left arm in waistcoat or with a silk hat, of course such a wooden effigy on the bows of a ship, which was often thrashing through heavy seas, was likely to be broken. During its forty years it had to be repaired from time to time. The captain of the ship at such times would order the carpenter to make the new arm or leg so that the seas could not smash it so easily. The photographic reproduction of an old painting of the *Constitution* in the Secretary's office at the Naval Academy depicts the frigate in 1838, Captain J. D. Elliott, under whom as commandant of Boston Navy Yard four years previously the figure had been mounted in place. This picture does not show whether the left hand has a silk hat or was stuck in the waistcoat, but it does show that the right arm is stretched upward as if making a gesture in speaking, not downward with scroll as in the Naval Academy figure. This might be taken to prove that neither of the present figureheads is authentic. But the extended arm was probably soon broken and the lowered arm as more seaworthy replaced it. Likewise, the Naval Academy figure may originally have had a silk hat which would in course of time have to be repaired. Admiral Leutze, who recalls the figure from his early days in the Navy, says he remembers it as it is here at the Academy, without the silk hat.

The Naval Academy statue of Jackson is undoubtedly the authentic figurehead of the *Constitution*. Of course Captain Elliott had to have a new head made after Dewey sawed off the original head. Elliott did this immediately after the sawing off. Hence if the first head was in later years put upon a body made for it, such a later statue never made a cruise on the frigate and cannot therefore be called a figurehead. It is at best an afterthought.

The above information from Professor Krafft was commented on by Rear Admiral Elliot Snow, (Construction Corps), U. S. Navy, as follows:

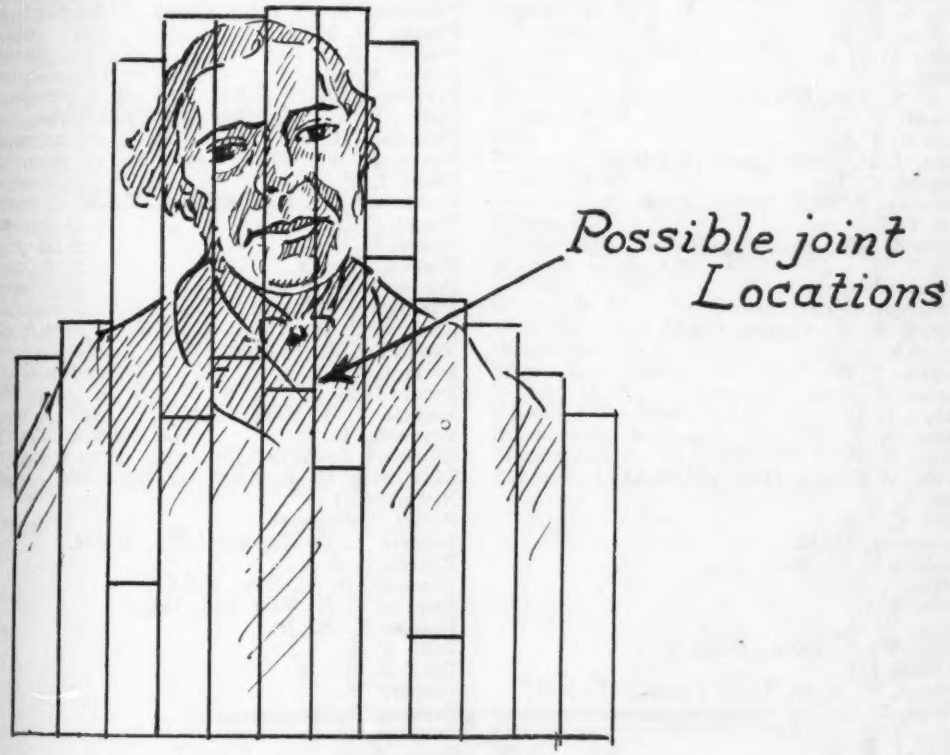
It is curious how, until recently, we all fell into error as to the identity of the Jackson figurehead at Annapolis. It clearly is not the one carved and decapitated in 1834. The head and body of the statue at Annapolis are carved out of a single piece, without any suture.

Last year I ran across a wood cut in the *American Magazine* for October, 1834, showing the *Constitution* between the *Columbus* and *Independence*, in which the figurehead is shown as carrying a hat in the left hand with the arm hanging down. I have since acquired a photograph of it too, which agrees with that contemporaneous cut.

The Secretary placed this whole correspondence before Mr. H. W. Davey, foreman, buildings and grounds, U. S. Naval Academy, asking for his expert opinion as to the possibility of the figurehead now at the Academy having had a new head and he replied as follows:

It is noticed that this ship was ordered to New York Yard for completion after the removal of the head in question. The question in mind of whether any evidence of the removal and replacement of this head is still evident, seems to my mechanical mind to be a question that could be settled only by taking the head apart to examine the (perhaps) different kinds of wood which may have been used in this original and additional work; but I can say without fear of contradiction that no

self-respecting mechanic—especially of those days, when men took pride in their work—would have built a head piece onto the body without laminating with staggered joints the various thickness of materials used in its construction. They most certainly would not be crude enough in their work to have made a straight-jointed addition, especially considering the strains that no doubt were imposed upon this piece of work during storms at sea. So that unless a more or less introspective investigation is made, I feel that no positive conclusion could be reached except by deducing that the lay of certain joints below the point of assumed dissection would indicate that later work had been added to the original structure. Again, even that addition might not be sufficient evidence, as more than likely, the placing of such new material may have been done as originally constructed, following the same joint locations; so that in the last analysis, the possible difference in the nature of the wood composing the head and the body would be the only means of reaching a reasonable conclusion.



Membership. New members not previously published:

(Continued from page 1238)

Grove, Orville, Mrs.
Gudebrod, C. B.
Gundry, J. P., Lieut., U.S.N.R.
Haas, J. I.
Hancock, J. C.
Harrington, R. A., Lieut., U.S.N.R.
Harris, H. L., Jr.,
Harthan, John
Harvie, J. B., Jr.
Hayes, H. C.
Healey, J. M.
Heck, J. C., Lieut., U.S.N.
Hight, F. S.
Hitner, F. M., Ens. U.S.N.R.
Holbrook, Donald
Holbrook, W. R.
Holmes, W. J., Lieut., U.S.N.
Holmstrom, A. B.
Hopkins, H. V., Ens., U.S.N.
Hougen, A. L.
Hozey, H. F.
Jacobson, W. H., Lieut., U.S.C.G.
Jahncke, E. L.
Jenkins, Richard
Jenney, Bernard, Lieut. U.S.N.R.
Johnson, J. R., Ch.Radioman, U.S.N.
Jones, L. R.
Jones, R. L.
Jordan, G. T.
Joynes, A. S., Jr., Ens. U.S.N.
Kane, J. T., Lieut. Comdr., U.S.N.R.
Keating, F. A.

Keller, H. E., Reverend
Kelly, A. M.
Kenyon, J. M., Lieut. Col., (ORC), U.S.A.
Kiefer, E. F., Lieut., U.S.N.R.
Kimball, H. G.
Kincaid, E. H., Lieut., U.S.N.
Kimball, C. C.
Kirchhoff, R. E., Lieut., U.S.M.C.R.
Kirk, A. E.
Knight, B. H.
Knight, J. C.
Knowles, Peter
Kohlmeister, W. O.
Kyle, E. B., Dr.
Laine, T. H.
Leach, G. E.
Langdon, E. W.
Lauder, F. H.
Ledoux, L. V.
Lee, E. S., Ens., U.S.N.
Lewis, F. C.
Lindauer, S. A.
Lindhe, J. B., Lieut. Comdr. U.S.N.R.
Lipscomb, C. T.
Livermore, P. W.
Lord, T. J.
Littlefield, G.A., Ens., U.S.C.G.
Lyon, T. H.
MacDonald, C. J.
MacGregor, Donald
MacFall, R. C., Captain, U.S.N.
MacLeish, A. C.
Maddrill, J. W.
Magoun, F. A.
Mallory, C. D.
Mallon, W. L.
Malone, E. R.
Marble, W.E., Col. (ORC), U.S.A.
Marr, G. M.
Marsh, C. N.
Marschuetz, H. H.
Marshall, L. Y., Mrs.
Martin, A. P.
Martin, J. W.
Martin, W. A., Jr.
Martin, W. E., Lieut., U.S.N.R.
Mathews, J. E.
Mathews, R. H. G., Lieut. Comdr., U.S.N.R.
Mauran, W. L.
Mayer, J. S.
Maynard, R. S.
Mayville, Armand, Chf. Carp., U.S.N.
McAlarney, J. H.
McCurdy, W. E.
McCutcheon, J. T.
McDonald, J. M., Jr.
McDonnell, W. J.
McGuckin, B. F.
McKay, A. B., Lieut. (S.C.), U.S.N.
McMillian, I. E., Midn., U.S.N.
McRoberts, J. J., Mrs.
Merrill, J. L.
Miles, P. B.
Miller, E. D., Lieut. (C.E.C.), U.S.N.
Miller, G. B.
Miller, H. B., Lieut., U.S.N.
Miller, J. M.
Mitchell, J. R.
Moran, Charles, Lieut. Comdr., U.S.N.R.
Moreland, E. L.
Murphy, J. L., Lieut., U.S.N.
Myers, A. H.
Nagel, Scott
Navarro, F., Lieut. Comdr. Spanish Navy
Newell, Joseph
Nichols, F. R., Lieut. Comdr., U.S.N.R.
Nicholson, C. A., Lieut., (CC) U.S.N.
Nolan, A. J.
Noland, T. H.
O'Connor, W. E., Lieut., U.S.N.
O'Riorden, J. P., Lieut. U.S.N.R.
Omohundro, P. S.
Pack, Albert
Parsons, E. S.
Parsons, Geoffrey
Patch, C. E.
Patterson, A. F., Lieut. Comdr., U.S.C.G.
Paxton, W. M., III
Peabody, E. F.
Peirce, M. C.
Perkins, S. A.
Pierce, P. E., Brig. Gen. (ORC), U.S.A.
Pickering, H. E.
Pierce, F. W.
Plank, E. F.
Plunkett, C. P., Rear Admiral, U.S.N.
Pound, B. D.
Power, G. C.
Preston, George
Prince, J. F.
Purrington, D. D.
Rairden, P. W., Lieut., U.S.N.R.
Randall, J. A., Captain (MC), U.S.N.
Reese, G. W.
Reese, J. S.
Reybold, J. K., Ens., U.S.N.
Reynolds, R. H.
Rhynhart, A. W.
Richardson, M. T., Lieut. U.S.N.
Riche, Swift
Ridley, Makepiece
Robnett, J. D., Captain (SC), U.S.N.
Rogers, F. B.
Rowland, H. F., Ens., U.S.C.G.
Ruggles, C. H., Brig. Gen., U.S.A.
Rusden, E. A., Jr.
Ryan, F. T.
Ryan, R. E.
Sanborn, F. R.
Samans, Walter
Satterlee, H. L.
Sayre, R. M., Ens., U.S.N.R.
Sehested, Knud
Schmitz, Dietrich
Schnabel, A. G.
Schuler, L. A.
Schuyler, Montgomery
Seagle, N. A., Lieut. Comdr. U.S.N.R.
Seavey, Morris
Sewell, W. D.
Seward, H. L., Lieut. Comdr., U.S.N.R.
Sharp, E. F.
Shepard, A. M.
Shorts, B. C.
Shnable, Barnes
Sikorsky, I. I.
Silsbee, C. S.
Sims, G. L., Ens., U.S.N.
Simmonds, A. P.
Sloan, J. E., Major, U.S.A.
Smith, A. B., Ens., U.S.N.R.
Smith, C. Warren

Smith, E. L.
Smith, Jos. J.
Smith, R. H.
Smith, W. B.
Stabler, J. H.
Stacey, A. E., Jr.
Stevenson, F. T.
Stevenson, Malcolm
Storer, S. B.
Stout, G. C.
Strang, F. W.
Stratton, S. W.
Studley, Barrett, Lieut. U.S.N.
Taggart, H. A.
Taylor, A. H., Comdr., U.S.N.R.
Templeton, J. W.
Thomas, Frank
Thomas, G. B., Jr.
Thompson, Arthur
Thompson, A. B., Ens., U.S.N.
Thompson, L. T. E.
Thompson, R. M.
Thompson, P. B., Lieut., U.S.N.
Thornton, H. H.
Tigner, E. G., Lieut. U.S.N.R.
Tillotson, C. B.
Todd, H. E.
Trask, J. H.
Tryon, John
Stockdale, J. T.
Van Alstine, F. E.
Van Valkenburg, A. W.
Van Weelderen, J. H. B.
Vanderpool, W. K.
Vaux, A. T.
Vauclain, Samuel M.
Villar, Frederico, Capt. Brazilian Navy
Vlachos, William
Vogel, Karl, Dr.
Volck, A. G.
Von Kersburg, H. E.
Vossler, E. A. E.
Vought, G. T.
Vreeland, J. H., Ens., U.S.N.
Waldo, B. T., Sr.
Walker, Edwin
Washington, H. L.
Waters, M. J., Ens., U.S.N.R.
Waterhouse, Albert
Watson, J. J.
Watson, W. H.
Wenger, J. N., Lieut., U.S.N.
Whalen, G. A.
Wheeler, S. A.
Whittlesey, G. N.
Wiencke, C. E., Lieut. U.S.N.
Williams, D. J.
Williams, R. M.
Willson, F. M.
Wile, F. W.
Willis, J. M.
Wilder, R. H.
Wilson, L. F., Lieut. Comdr. U.S.N.R.
Wilson, R. C.
Windesheim, K. A.
Winslow, C. M., Ens., U.S.N.
Wofford, C. P.
Wolter, B. H.
Wolfskill, Herbert
Woodworth, E. S.
Work, James, Lieut. U.S.N.R.
Wright, C. A.
Yarnell, J. B., Lieut., U.S.N.R.
Zimmerman, G. C.
Zimmerman, P. R., Radio Elec. U.S.N.
Zukor, E. J., Lieut. U.S.N.R.

The following review appeared in the *Boston Evening Transcript*, September 24, 1927.

Five Years in Turkey

The Great War and Its Progress in the Near-East

Five Years in Turkey. By Liman von Sanders. General of Cavalry. Annapolis: The United States Naval Institute. Price $3.50.

THIS VOLUME will go a long way towards dissipating the popular belief, held by English-speaking people, that the World War was fought and won only in France. Published seven years ago for the edification of German readers, the work is now for the first time translated into English through the kind services of the United States Naval Institute. Much of what is revealed herein will prove to be quite surprising to most readers, as the well-informed person might well have foreseen. The personal records and notes of one who was in control of the various branches of the Turkish armed forces for five years through an arrangement between the Turkish Government and the German foreign office, cannot fail to disclose facts of a more or less startling nature.

From day to day the author's reactions are set down and the various situations which confronted him openly discussed. For this reason the book is more valuable to students of war than the usual books written after the war, in the light of the knowledge which the commander lacked. The reader is constantly reminded of the deficiency of information possessed by the generals in the field, of the difficulty of adjusting plans of battle to the resources available, and particularly of the errors of officers in the high places in Constantinople. The miserable condition of military organization and efficiency in Turkey was a source of continual worry to the author-general. His sentiment on this subject cannot possibly be misunderstood: "Had there been a competition in how to ruin an army by continuous wrong measures, the Turkish headquarters would have been sure of first prize. . . . . In Turkey one can make the most beautiful plans and prepare the execution by drawings and perfect orders, and something entirely different will be done, or perhaps nothing at all. The central office, of course, promised everything asked for, if only for the reason that the Turk considers a direct refusal impolite; but the keeping of the promise was a different matter." This gives us some little inkling of the obstacles in the way of General Von Sanders's successful accomplishment of his mission.

Concerning the results of his five-year sojourn in the East, the author is entirely frank. What was actually accomplished by the German military mission in Turkey is of small import at this late time, but a short decade ago it was essential that Germany take full advantage of the military resources of her Allies. That this particular mission did not meet with complete success is not due to any one cause. Turkey and her leaders must be held to account for not making their aims conform to the available means. Germany is to be blamed for the lack of calm and clear judgment as to just what was within the powers of Turkey. To our author, it seems likely that "thoughts of the tales of The Thousand and One Nights, or the *fata morgana* of the Arabian desert dimmed judgment at home."

S. H.